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# FOREWORD

THE war which broke out in 1914 created a revolution in the attitude of Americans. This revolution was not merely the result of our active participation in the war on the soil of Europe, but involved likewise immense changes in our thoughts. Barring the comparatively few who have come from Syria, I presume most Americans thought of Syria in terms of foreign missions. We knew something of the educational work which had been done in various countries, but it all seemed apart from our life. After four years of conflict the world now seems very small to us. The statements which come to us have been so diverse and conflicting that it has been impossible to get a clear vision. Nevertheless, we are conscientiously endeavoring to interpret what has taken place and we are striving to know what existing conditions are.

In planning for this volume the above facts were kept in mind and the officers of the Academy sought to obtain first-hand testimony from competent and trustworthy observers who have had exceptional opportunity to know the conditions about which they write. Each man speaks for himself and the viewpoints represented in this volume will be found to be quite divergent. This indicates perhaps that the different observers have seen things from different angles and thus their various accounts may blend to produce a more harmonious and complete picture in our own minds. It is believed they will be found worthy of careful consideration.

One of the trouble spots on the earth for the last century has been the district about the eastern Mediterranean. If some solution can be found which will make it possible for the peoples of this region to adopt a civilization which will correspond to the opportunities offered by nature, it will be a blessing to the world. The final development of this country, moreover, would make it easier to work out some basis of harmony in the tangled situation which confronts us in mid-Europe. Probably no one believes that the Slavic states will fail in the long run to find some basis of union. This will in turn make possible peace and prosperity in the great Danube valley.

Russia is a mystery; none the less interesting and fascinating because so mysterious. Reports with reference to conditions in Russia are so divergent, the judgments of observers vary so greatly, that our final judgment must be suspended until the scene clears somewhat. The form of government adopted by the Russians is primarily their own concern. The principles, however, which animate that government in its dealings with the rest of the world are matters of no little importance to us here.

Lack of space prohibits consideration of other areas of the earth where conditions are today unsettled.

The fourth part of the present volume deals with a very different type of questions, but they are all questions growing out of the interrelations of nations. How our industries are to be organized; how our foreign trade policies are to be developed; how the control of the sea is to be maintained; are matters of no little concern to us all. The last section presents careful consideration of the League of Nations as now proposed. Whether or not the constitution, as outlined at Versailles, is ideal, is not the main question. The big question is, I take it, whether or not it is a workable compromise. Our own American Constitution is highly exalted. Yet when it was adopted it satisfied very few people and the change of a handful of votes in states like Pennsylvania and New York would have defeated it. The courts have found it possible to introduce elements not contained in the written document. In spite of the great changes in conditions in the United States our experience has shown us that it proves the basis for substantial and harmonious adjustment. All the details of the plan proposed at Versailles are not known. When they are it is obviously the duty of our government to consider them most carefully to determine whether or not we should bind ourselves to accept them. The papers here presented both support and criticize the plan now outlined.

The editor in charge believes that the papers will be found deserving of careful consideration by all who are seeking to obtain information on these great current problems. He believes that by the publication of such a volume the Academy justifies its existence. The Academy as such has no viewpoint on any question, but it seeks to secure men of the best thought and widest experience who can give the rest of us the benefit of their information. The members of the Academy owe the contributors a great debt of thanks for their generous participation in the Academy work.

CARL KELSEY.

ago, he drove from Con-
ople the Greeks who had ruled there for hundreds of years. So successful was that onward march of the Ottoman Turk, so wonderful was the progress he made, that he came to the very doors of Vienna before he was finally stopped. Then, after centuries, there began the period of retrogression. The Turk, while he may be a conqueror, has failed signally to be a real administrator. He has failed to understand the theory or the practice of government—not only of his own people, but of those nations which he has conquered. So we find today that there live in what is known as the Ottoman Empire some 20,000,000 people, among whom are nations within a nation, peoples within a people, countries within a country—people diverse in thought, in language, in ideas, in ideals, and in all that goes to make up a

the nations of the earth, even today, except this land of ours, would be willing, perhaps, to possess. The disposal of Constantinople is one problem.

### THE TURKS IN EUROPE

Then it has been said that the Turk, because of the atrocities which the Turkish government has permitted against the Armenians, should be driven from Europe. Now, there are between 700,000 and 1,000,000 Moslem Turks in that part of Turkey in Europe between Constantinople and Adrianople. They have lived there for five hundred years—they and their families. It might be almost as cruel to deport them from that land and from their homes as it was cruel to send out those hundreds of thousands of Armenians from their homes where they had lived for centuries.

Side by side with that suggestion comes a proposition to internationalize, or place under international control, the whole of the Turkish Empire, leaving the land and its peoples as it is. This might permit the working out of its salvation by each nation.

### CONFEDERATION OF TURKEY

The next plan which I have seen proposed is one that meets with little favor from any one. It is to make a sort of confederation, as it were, of all these countries—to try to make a kind of a United States out of Turkey, some states to be free, some to be partly free, some to be placed under the guidance or under the protectorate of a great foreign power, all to have some measure of independence—all, I presume, with the idea of working out as time goes by their own independence. For the Moslem Turk himself there would be reserved a new country carved out of Asiatic Turkey, where the greatest number of the Moslem Turks reside.

### SYRIA AND LEBANON

Syria, according to this plan, would be semi-independent with France for her guidance and protection. But those of Syrian birth would feel dissatisfied with any guidance or with any protectorate, claiming that they themselves are entitled to be an independent people. Yet France claims certain ancient and inalienable rights, as she puts it, in Syria. Also the Lebanonites, inhabiting that ancient country of Lebanon, assert the right of independence, and over them, too, France claims certain rights of protection and guidance.

### ARMENIA

Armenia likewise claims, with reason and justice, that she should be given, some say, full independence and freedom. Speaking of her history, of her peoples, of her requirements and what she has accomplished, Armenians point with real pride to what their people have become throughout the world, as an example of what they may be able to do if they live under a free government of their own. Some say, however, that there should be a protectorate over that land, and to America many of the Armenians offer this task.

### ARABIA

Arabia presents another problem. The Arabians, when the war came, with the assistance of England, proclaimed themselves an independent kingdom and set up a power of their own, and they, too, claimed the right to have a government of their own.

I have thus briefly outlined the story of the Ottoman Empire, its history, the problems of its future. There are other problems—Palestine, for instance, but all these can be solved with intelligence and thought, and solved in such a way as to bring to these peoples the realization of their aspirations for liberty and freedom and justice. We are today turning over a leaf in history which for those peoples of the Near East is momentous. For them the pages of the past have been written in letters of blood. Now we turn for them and for the whole world to a much fairer and a brighter page: the one whereon will be inscribed the victories of peace and the triumphs of the right—the right for which those peoples in that far off land have looked so far in vain. We hope and believe, however, that this time it shall not be in vain.

# The Future of the Ottoman Empire

By HENRY W. JESSUP, M.A., J.D.

New York

"MENE, MENE, TEKEL, UPHARSIN. MENE: God hath numbered thy kingdom and finished it. TEKEL: Thou art weighed in the balances and found wanting. PERES: Thy kingdom is divided." These words uttered to the reckless Belshazzar are equally applicable to the Sultan of Turkey. "The writing is on the wall." By successive breaches of trust, by cruelties beyond recording, by a congenital incapacity to appreciate the restraints of civilization, by the very nature of his religion, and, I regret to add, by the very record of his experience in overreaching the great powers after each relapse into savagery, it is no longer a question what shall be done to protect the Turkish empire or to safeguard its integrity, but what shall be done to assure security of life "and an absolutely unmolested opportunity of autonomous development to the oppressed nationalities heretofore under Turkish rule." And this question relates itself to four of such nationalities: the Armenians, the Greeks, the Syrians and the Arabs. The separation of the last two is intentional.

## AMERICA'S RELATION TO THE TURKISH PROBLEM

First, however, what is the relationship of the United States to this problem? It would be idle to speak of the interest of the American people in the sufferings of those upon whom the combined savagery of Turk and Teuton has been unleashed since 1914. Torturings beyond the ingenuity of the inquisition; deportation of entire communities into the deserts; indiscriminate slaughter and robbery; rapings and ravishings; systematic starvation of whole villages by blockade;—all these, thus too mildly summarized, aroused and shocked the conscience of America and elicited a degree of benevolent helpfulness never before paralleled. Hence I may safely assert as my premise that the American people demand of the government of the United States that never again shall it take, in respect to such conditions and such sufferings, the attitude of indifference and trustfulness which the records of our state department show that it took on the occasion of the last massacres, to go back no further than 1909. I refer to the massacres under "Abdul the Damned" which preceded the so-called "Constitution of July, 1908," which Mr. Leishman, and many others, thought was a real revolution of reform calculated to bring about an era, according to our easy-going minister, "of universal good-will and fraternity among all the races and creeds of the empire." His reports are recorded in a book entitled, *Foreign Relations of the United States,* which is readily accessible. In this same book is recorded the attempt of Congressman Bennett to secure some intervention on the part of the United States to put a stop to the massacres of the Armenians which were again arousing the attention of the civilized world. A petition had been presented to the President, and the Department of State made the following answer:

DEPARTMENT OF STATE
WASHINGTON, JUNE 28, 1909.

SIR: I have the honor to acknowledge your letter of the 18th, enclosing a petition from the representatives of the Armenian Evangelical Alliance, addressed to the President, urging the influence of the United States for the amelioration of the condition of the Armenians.

The petition has been read with attention and interest. This question has from time to time had the earnest consideration of this government for many years, and the recent terrible events in Asia Minor have served to further manifest the deep sympathy of the American people and the abhorrence of the President over the atrocities perpetrated. While the government of the United States, not being a signatory to the Berlin Treaty engagement, deems itself—as the petitioners seem not unaware—precluded from any consideration on its part of a question of intervention in the present circumstances, or of sharing in those treaty responsibilities, the sentiments of this government and its earnest desire that the Armenians shall possess absolute security of life and property are common knowledge to the concert of great powers who by the treaty compact aimed to accomplish that result.

Every thinking American deplores the antagonism, differences, and opposing ambitions which have arrayed the racial and religious elements of the Turkish population against each other. The sufferings of the innocent victims in the late outrages have deeply touched American sympathies. Neither in these events nor in times past has this government looked on unmoved. It has always wished that it had the power to prevent such sufferings, but it is convinced that, in the obvious impossibility of intervention, it is powerless. The broader tendencies developing in the Near East and the moral suasion of the Christian treaty powers must be trusted finally to prevail to reconcile the opposing factions.

*It is no longer a question of dealing with a government implicated in the Armenian massacres.* It is earnestly believed that the best course now for the betterment of the unfortunate people concerned is to exhibit a degree of confidence in the newly established constitutional government, whose Sultan has solemnly proclaimed to Parliament his horror over the awful slaughter among his subjects, his firm intention to punish the guilty, and his purpose to use his fullest power to maintain peace, justice, and tranquillity throughout his dominions and among all races and religionists. The magnitude and difficulty of the task of the new régime should win the sympathy of all well-wishers of peace and justify a fair opportunity of accomplishment without interference.

The hopeful promise of reforms seems to be confirmed by the recent official reports from Turkey that the constitutional government is taking vigorous measures for the complete restoration of order in Asia Minor, for a rigid investigation of the massacres, and for the effective military protection of the disturbed districts. All of which, it is hoped, will prevent a recurrence of the recent lamentable events, which are deplored as keenly by the President as they can be by any citizens.

A copy of the petition of the Armenian Evangelical Alliance will be communicated to the American ambassador to Turkey, who is fully aware of the President's views in the premises.

I have, etc.,

HUNTINGTON WILSON.

Publicity has been recently given to the trial and execution of one or more individuals as an evidence of the good faith of the new Sultan, Mohammed VI, who expresses disapprobation of all the acts of his predecessor and of the Pasha generals who had control of affairs during the war. It is barely possible that these executions have actually taken place, but in any event the widest publicity is being given to them in the conviction which the Turk has long entertained that the Occidental mind will interpret an act of this sort as being done for the reasons and pursuant to the motives that would dominate an Occidental government in such an inquiry and punishment. Nothing of the kind is true of the Turkish attitude. They are merely laying their offenses upon scapegoats and dismissing them into the wilderness. If necessary a hundred or a thousand victims would be offered for the purpose of clearing the skirts and saving the suzerainty of the Sultan. The American mind, without the actual experience of living under the Turkish government and with the subjects of Turkey, cannot readily appreciate the attitude of the Mohammedan Turk to his non-Moslem subjects. Justice to the Christian populations of Turkey impartially administered is absolutely incompatible with the Mohammedan religion or with the Ottoman Turk's theory of government, and the sooner that is realized the better. In Mohammedan law there is only one word expressing the relation of the Moslem to the non-Moslem, and that is *Jehad,* i.e., Holy War.

In a report on the capitulations of the Ottoman empire, published in 1881 by our state department,[1] Edward A. Van Dyck calls attention to the fact that of all consuls residing in the various Moslem countries along the shores of the Mediterranean those that are sent by the government of the United States are, perhaps, more deficient than any others in an acquaintance with the growth and history of the peculiar and exceptional relations that have long existed between the Christian nations of Europe and the Mohammedan nations of North Africa and Western Asia. The writer observes:

> It accordingly happens quite often that a newly appointed consul arrives at his post in a Turkish city without a knowledge of the principles that govern the relations of his fellow-citizens residing in the consular district to which he has been sent with the authorities and natives of the land, between whom he is the only proper medium of official communication. . . . . . He knows not the native language and he has scarcely any, or in most cases, no acquaintance at all with the commercial and diplomatic languages of the Levant, which are the French and Italian.

With one or two notable exceptions, this same criticism might apply to the ministers of the United States at Constantinople. They have been almost uniformly ignorant of the fundamental characteristics of Turkish character and of Oriental customs and habits of thought and expression. Themselves direct and truth-speaking, they have been easily overreached by exaggerated courtesy and hyperbole of speech.

The Arabs have a tradition that when the devil set forth to distribute lies over the earth, he lay down with his seven bagfuls on a mountain to take a nap. An inquisitive Syrian got six bags opened, and liberated their contents, before Shaîtan awoke. Hence the superfluity of falsehood in the Near East.

Kent in his *Law of Nations* observes that, "international law, as professed by the civilized nations of Christendom, is the offspring of the communion of ideas subsisting between them, and is based upon a common origin, and an almost identical faith." In the light of this statement, Van Dyck states that the intercourse between the Christian world and the Mohammedan world is not founded upon the principles of the law of nations and that the relations of the one to the other for years had to be regulated solely with a view to political expediency and in accordance with treaties entered into between them. Anyone familiar with the Mohammedan religion and with the science of Moslem jurisprudence knows that there is, as above noted, only one relationship between those who recognize the apostleship of Mohammed and those who do not, i.e., *Jehad.* Someone has recorded of Brian Boru, the first king of Ireland, that he was a mythical character who never existed, and was succeeded by his son. It may be similarly stated that the fictitious will or command of Mohammed called in some ancient records, "The Treaty of Mohammed with the Christians," and often referred to as proof of Mohammedan justness and equity, is equally mythical. It never existed, and the successors of Mohammed have entertained the same sentiments as Mohammed did with regard to non-Moslems. The purpose of Islam is the propagation of faith in one God and in Mohammed as his prophet And the mode of such propagation is by a holy, perpetual war against unbelievers, in order to convert them, or subject them to the payment of tribute. This right to wage war is the only principle of international law taught by Mohammedan jurists. Moreover, the "justice of the Cadi," and the equity of the Caliphs is evidence of the Arab nature and characteristics, not of those of the Ottoman Turks.

---

[1] Largely based on the English translation of the introduction to Dr. Rattes-chi's *Manual on Ottoman Public and Private Law,* and on DeTesta's *Collection of Treaties with Turkey,* on Brunswick's work on the *Reforms and Capitulations of Turkey,* and on Arabic and other sources.

Singularly enough, the early European jurists took an identical position, recognizing no international law as against Moslems and holding that there ought always to be war with them. But about the middle of the nineteenth century the Sublime Porte under the stress of international events, recognized and itself exercised the right of legation and entered into many international obligations, capitulations or treaties. Since the Treaty of Paris in 1856, it has had a place in the political concert of Europe. This is not to say that there were not capitulations or treaties between Moslem rulers before the Turks, and between the Turks themselves, relating to certain commercial rights and the rights of citizens of various powers within the domains of the Sultan of Egypt or of Turkey. But it is a sufficient introduction to the statement that the United States of America, even since the Treaty of 1862 with Turkey, which was abrogated in 1882, has held an attitude of aloofness, with regard to affairs in Turkey and the treatment by Turkey of its non-Moslem subjects. An attitude, which, however consistent with the Monroe Doctrine, is at times inconsistent with those high principles which the government of the United States has from time to time asserted by force of arms; notably in the case of the Spanish War and the Philippines. Once in awhile the cruelty of the Turks, always ready to manifest itself, has found an opportunity. Such opportunities have arisen when the great military powers, of which alone it was afraid, were so engaged, that, before anything could be done by way of prevention, the Turks have by massacre attempted to cut the Gordian knot of their total inability to administer justice for and among their non-Moslem subjects.

I append extracts from the constitution of the Ottoman empire as revised in 1909 after the revolution of July, 1908, which constitution gave to our state department, as well as to the subjects of the Turkish empire, great hopes of a real reform. Note the following articles in particular:

> 4. That the Sultan is, in his character of Supreme Caliph, the protector of the Mohammedan religion.
>
> 5. His Imperial Majesty, the Sultan, is irresponsible; his person is sacred.
>
> 10. The liberty of the individual is absolutely inviolable. No one can under any pretext be arrested or made to suffer any penalty except according to the forms and in the cases prescribed by the religious and civil laws!
>
> 11. Islamism is the religion of the state.
>
> 26. Torture and examination by torture in all forms are entirely and absolutely forbidden!

And then note, after the provisions protecting civil rights, establishing judicial machinery, etc., Article 113:

> In case of a state of affairs or indications of such a nature as to render disturbances probable at some point in the territory of the empire, the imperial government has the right to proclaim a state of siege.
>
> *The effect of a state of siege is the temporary suspension of the civil laws.*

So that we may say that all that has been done by Turkish soldiery acting under military orders in respect to the subject

Christian peoples of Turkey since the war began has been done under the constitution.

### AMERICA'S RELATION TO TURKEY DURING THE WAR

But before discussing the direct subject of this paper, it is proper to inquire whether the United States is under any particular obligation, moral or otherwise, to take an active part internationally in enforcing a settlement of this Turkish question. I contend that it is; and this by reason of the following facts:

When Turkey entered the Great War as an ally of Germany she declared war on France and England. Thereupon the United States government, through its consular and diplomatic agents, was intrusted with the protection of the interests of the French and English nationals in Turkey. With few if any exceptions these nationals in Syria were missionaries, or missionary teachers, representing English and French missionary activities which had been established for several generations in Syria. Many of these missionaries were aged men and women, gentlefolk, refined, loved by the people. *Suffice it to say that they were non-combatants* and entitled to reasonable opportunity to leave the country. They were promptly arrested by the Turkish governor of the province, who was a member of the Turkish war cabinet and a general in the Turkish army. These people appealed at once to the American consul, who sent back word by the messenger (who was, of course, one of the governor's soldiery) that he "could do nothing." One of the English missionaries sent back a protest saying that if the situation were reversed and an American in like case appealed to the English consul, "the English consul would secure his release in fifteen minutes." To this the American consul sent back the reply that his "instructions were explicit, *not to embroil the United States.*"

It seems inconceivable that our state department could have intended to "welch" on its international obligation of trust to protect the rights of these nationals by any general or explicit instructions. Nevertheless, as the matter developed, the United States was not embroiled! These French and English missionaries were interned in dirty dungeons, their rights ignored, and that stage of the incident was closed.

But, the Turkish government was in possession of the information that the instructions of the American consuls were that they must not embroil the United States. Whereupon step number two was taken. When the American consul had assumed the responsibility of protecting French and English interests he had proceeded to the French and English consulates and sealed the archives and the offices with the United States seal. The Turkish governor-general repaired to the French consulate, broke the United States seal and claimed to have discovered, as was afterwards recorded in his proclamation, published in the Cairo newspapers, documents implicating the loyalty of members of the Syrian reform committee, who had for years been endeavoring to secure reforms in taxation and the administration of justice in the province of Syria. On the strength of these alleged proofs of disloyalty he arrested and executed a number of the members of this committee. One member of the committee who was not arrested and escaped has told me these facts in my own office.

I have been unable by careful inquiry to ascertain that the United States ever secured any satisfaction for this outrageous insult to its dignity, although I gave the fact the utmost publicity at the time that I learned of it. My information is that nothing was done by the United States at the time. The incident in its second stage was thus closed.

This brings us to the early part of 1915. The United States, in 1909, had, as above stated, expressed itself as precluded from any consideration of a question of intervention, in the matter of the atrocities perpetrated in Asia Minor, because it was not a signatory of the treaty of Berlin. This was a public document and, of course, thoroughly well known to the Sublime Porte. France and England were the only powers fear of whom would have deterred the Turks from what they were about to do. Germany was its ally, and, if we are to believe the testimony even of Germans, was in part an instigator of the events that followed. But, for the purposes of this paper, I wish to emphasize the fact that it was not until after the United States had been felt out, and it had been discovered that the representatives of the United States had explicit instructions "not to embroil the United States," and after the United States had made no sign, *although the United States seal had been placed* by its consul upon the French consulate, and had been violated by the Turkish governor-general, and nothing had been done, that the massacres commenced in the spring of 1915. They did commence. They were continued. News of them leaked out, and in the long cruel years since that time persons in the United States have been contributing to the relief of the victims of Turkish savagery, trying to keep body and soul together of the wretched survivors of the families raped, robbed, deported and massacred by the brutal Turkish soldiery under direct orders from Constantinople. Yet the United States, so far as its official activities have been concerned, did not declare war on Turkey! We finally declared war upon Turkey's ally, Germany, but we limited our diplomatic representations as to these massacres to a request through Germany that Berlin would exercise its kindly and humane offices to persuade the Sultan to put an end to these atrocities. A request that must have aroused that sense of humor which the Oriental possesses in such marked degree. Talaat and Enver have been known to smile.* Keen and intuitive as is the Oriental mind, it was difficult for the Turk to understand how he could be an ally of Germany and we could be at war with Germany and yet not at war with him. The argument *post hoc propterea hoc* may not apply, but it suggests itself. The United States when it entered the war did so with assurances to the world that gave to our entry into the war the character of a crusade in support of freedom, liberation of oppressed peoples and the determination to crush those powers of savagery that seemed to threaten the world. But so far as Turkey was concerned we refused to strike a blow to free her cruelly oppressed subjects—nor was our flag seen in the operations that laid those people under eternal obligations to their liberators.

These facts, however, I believe lay us under the compulsion of a moral obligation at the present juncture.

## AMERICA'S POST-WAR RELATION TO TURKEY

But now that the war is over and the covenants of the League of Nations are being welded the situation has changed.

Consider first the attitude of the several nations interested in the solution of the problem before us. The attitude of isolation of the United States may be assumed to have been changed forever.

---

*NOTE: Our state department even sent a cable message felicitating the Sultan on his august birthday! Even the melancholy monarch must then have smiled.

In the 12th of Mr. Wilson's fourteen points uttered January 8, 1918, he demanded:

> The Turkish portions of the present Ottoman empire should be assured a secure sovereignty but the other nationalities which are now under Turkish rule should be assured an undoubted security of *life* and *an absolutely unmolested opportunity of autonomous development.*

In his rejoinder, of February 11, 1918, to the Central Powers, i.e., formulating his "four principles," he denied the right to barter provinces from sovereignty to sovereignty, and demanded that every territorial settlement must be made "in the interest and for the benefit of the populations concerned," but added as the fourth principle that, "all well-defined national aspirations shall be accorded the utmost satisfaction that can be accorded them *without introducing new or perpetuating old elements of discord and antagonism.*"

In his Mount Vernon address July 4, 1918, he propounded as one of the "four ends" being fought for and which must be conceded before there could be peace:

> The settlement of every question whether of territory, of sovereignty, of economic arrangement or of political relationship, *upon the basis of the free acceptance of that settlement by the people immediately concerned.*

There can be no argument on the proposition that Armenia and Syria can claim rightfully that as nationalities under Turkish rule, whose interests are vitally concerned by any territorial settlement of the Turkish situation, they must be protected by the fourteen points, the four principles and the four great ends.

As to the attitude of Russia in relation to Armenia, the memorandum presented by the delegates of the Armenian Republic to the Peace Conference on February 26, 1919, pointed out that after the breakdown of the Russian-Caucasian army and the withdrawal of their support of the Armenians, who had so loyally coöperated in the war up to that point, the Russians by the infamous treaty of Brest-Litovsk completely deserted their Armenian allies. This treaty left to the Turks the provinces of Turkish Armenia, which had been conquered by the Russian and Armenian armies, and also turned over to the Turks the purely Armenian provinces of the Caucasus, of Kars and Kaghisman, of Batum and Ardahan.

The Bolshevik government gave publicity to a so-called "Secret Treaty" that had been made by Great Britain, France and Russia, by which Turkish Armenia was to be partitioned between France and Russia. France was given Syria, and England was to receive Mesopotamia and the Palestinian ports of Acre and Haifa. Whether the President of the United States had knowledge of this treaty when he made his pledges to the oppressed nationalities in Turkey at the time we entered the great crusade now proves to be immaterial. I do not believe he had such knowledge. The Arabs, who revolted, and were achieving their plan of a free Arabia and Syria, certainly did not—Prince Faisul so states. But, as I say, it is now immaterial, for, in documents—presented by the Rev. Dr. Bliss, the president of the Protestant College of Beirut, when he was invited to appear before the Peace Conference on behalf of the people of Syria, who petitioned to be consulted as to their political future before any government were imposed upon them by the Peace Conference—it appears that in 1918 a declaration had been agreed to between the British and French governments and communicated to the President of the United States of America. This was published in the *Palestine News* of November, 1918, and the following is an extract therefrom:

> The aim which France and Great Britain have in view in waging in the East the war let loose on the world by German ambition, is to ensure the complete and final emancipation of all those peoples so long oppressed by the Turks, and to establish national governments and administrations which shall derive their authority from the initiative and free will of the people themselves.
>
> To realize this, France and Great Britain are in agreement to encourage and assist the establishment of native governments in Syria and Mesopotamia, now liberated by the Allies, as also in those territories for whose liberation they are striving and to recognize those governments immediately they are effectively established.
>
> Far from wishing to impose on the peoples of these regions this or that institution, they have no other care than to ensure, by their support and practical aid, the normal workings of such governments and administrations as the peoples shall themselves have adopted; to guarantee impartial and even justice for all, to facilitate the economic development of the country by arousing and encouraging local initiative, to foster the spread of education, to put an end to those factions too long exploited by Turkish policy—such is the part which the two allied governments have set themselves to play in liberated territories.

In addition to this I quote the nineteenth section of the League of Nations Covenant, as presented to the Peace Conference

February 14, 1919, so far as I am able to quote it in its last-known form:

> Certain communities formerly belonging to the Turkish empire have reached a stage of development where their existence as independent nations can be provisionally recognized, subject to the rendering of administrative advice and assistance by a mandatory power until such time as they are able to stand alone. The wishes of these communities must be a principal consideration in the selection of the mandatory power.

I learn that a commission has accordingly been despatched from the Peace Conference to elicit such wishes on the ground.

### THE FOUR NATIONALITIES

We have mentioned four groups or distinct nationalities to be protected in any international arrangement for the future of the Ottoman empire. If the claims of these four groups are recognized to any substantial extent the direct result will be to restrict the Sultan of Turkey to the territorial boundaries of the so-called province of Anatolia; to internationalize Constantinople, the Dardanelles, and the Bagdad railway; and to leave the Sultan shorn of his suzerainty of the Greeks of Asia Minor to the west, the Armenian republic to the east, the province of Syria to the south, and to the south of that the kingdom of Arabia.

### THE ARAB CLAIMS

Each of the groups above mentioned makes its peculiar claim to recognition. The Arabs revolting against the Turks, have occupied the entire Arabian peninsula, have organized a government under the King of Hedjaz, have seized the holy cities of Mecca and Medina, and rendered substantial service to the Allies by furnishing troops that were used by General Allenby in his expeditionary force for the occupation of Palestine and Syria. The recognition of their rights presents an interesting feature with regard to the future of Mohammedanism. The original Caliphs were Arabs. The language of Islam is the Arabic. Mecca and Medina are Arab cities and holy cities of the religion. With the conquests of the Ottoman Turk the Osmanli assumed rights of leadership and control in the Moslem world against which there has always been strong protest. The Sheikh-ul-Islam has been located at the capital of the Ottoman empire and has interchangeably been dominated by or has dominated the politics of the empire. To de-nationalize Constantinople might conceivably result in the Sheikh-ul-Islam repairing to the Holy City of Mecca and in restoring the purity of the original Islamic rule. Or the King of Hedjaz, who was himself Shereef of Mecca, or even his picturesque son, Prince Faisul, under the influence of the romantic ideals of Lawrence, his Fidus Achates, might assume the Caliphate.

The Arab hatred and distrust of the Turkish claims could not have been lessened by the brutal threat of the Turkish garrison of Medina, when they were attacked, to blow up Mohammed's Tomb! The Arab Moslems may again come into their own. They would include the wandering pastoral Bedawins who are simple monotheists and, though regarded by the government as Mohammedans, have no religious sheikhs or imams, no places of worship, no hours of prayer, rarely keep the Fast of Ramadan, or make the pilgrimage to Mecca. So the Moslems say: "There are three classes who have no religion, muleteers, Bedawin Arabs, and women."—(*Kamil*, H. H. Jessup.)

The character of the pure Arab, on the other hand, has been unchanged through the centuries. His dignity, his cult of hospitality, his pride of race, his ambition, his independence, his virility, all give promise of the emergence of a nation apt for self-government and capable of centralizing within itself the hopes and aspirations of the Moslem world with all that that implies.

## CONFLICTING CLAIMS OF SYRIA

The adjustment of the boundary between the kingdom of the Arabs and the province of Syria, supposing the latter to extend from the angle formed by the Asia Minor coast with the easterly coast of the Mediterranean, from Antioch and Aleppo down to the Egyptian frontier, would be a matter not unattended with difficulties. Damascus is, in a sense, one of the Holy Cities of Islam, but it is also the historic capital of Syria. Yet Prince Faisul desires to have his boundaries extend to include the region around Damascus. On the other hand, the province of Syria, if it is to be self-supporting, must control the hinterland including Aleppo and Damascus. It should include the whole coast from Alexandretta down to Egypt, and should go right back to the desert and include the Damascus plains. The plains of the Bukaa or Coele-

Syria, between the Lebanon and Anti-Lebanon ranges are the most fertile part of Syria. Nothing would be gained by continuing the separation of Lebanon from the coast cities.[2] As a matter of

NOTE.—The following letter expands this suggestion of incompatibility:

[2] *To the Editor of The New York Times:*

Thus far the objections raised against the claim of the King Hedjaz to rule Syria and Mesopotamia have been that the Syrians and Mesopotamians are not of Arab race; that historically they possessed, and still possess, a much higher stage of civilization, and that socially and intellectually they are way ahead. The logical inference is, therefore, that they cannot hope to reap many economic and educational benefits if their countries join Arabia.

But there is another and more cogent reason why such a political union is inadvisable, and that is religion. Religion, we should bear in mind, is the controlling factor in the affairs of that part of the Near East of which I am writing. When, a few years ago, D. Saaty of Providence, R. I., took to Mosul an ice-making machine, he was told by the authorities there that the ice making was the work of the Creator and that, therefore, it was against the will of Allah to grant him a permit. The difference between the inhabitants of the Tigris-Euphrates Valley and those of the Arabian peninsula, as far as enlightenment goes, is like that which exists between the Americans and the Mexicans.

What the various parts of Turkey need, and need very badly, is the establishment of a just and tolerant government. But no native race at present can administer such a government, whether Arabs, Syrians, Assyrians, Armenians, Turks, or Kurds. For they all lack the sense of political justice and the spirit of religious tolerance as are embodied in the principles of our western institutions. How could they be otherwise when they have been for many centuries living in the environments created by the crooked and oppressive Turk? There is no feeling of race unity among them; religion is their sole guiding principle. But the conflicting beliefs have kept them apart and tend to prevent their union as a single nation. The most deplorable fact is that there are no native influences to counteract these divergent tendencies. Hence comes the urgent need for foreign mandatories.

We may admit, I think, that the Arabs are as just in their dealings as any nationality of their neighbors. But it must be conceded also that the people of Al-Hedjaz are the most intolerant. This is attested by the undeniable fact that no person not belonging to their creed can enter Makkah, where the King of Arabia resides, and come out alive if he is caught. Now, how the Makkans will be able to make good in Syria and Mesopotamia, where live so many Christians, Jews, Druses, Devil Worshippers, and what not, is very hard to understand. It is still harder to comprehend how enlightened European statesmen, who were a while ago making so much noise about the rights of small nationalities, allow themselves to be persuaded that narrow-minded nomads can advantageously govern civilized communities.

The natives of Mesopotamia desire the establishment of an independent state along modern lines, under the trusteeship of Great Britain, to be administered fact, taking the population of the cities on the coast, and of Damascus together with the population of the Lebanon villages, the Druse, the Maronites,[3] the Nusairiyeh, diverse as they are, hostile to one another as they are, yet, there are influences that would set the province on its feet in less than twenty years. These are the influences that have been at work through Christian missions for three generations, the tutelage of a disinterested, impartial mandatary, the intelligence of the people, and the long-developing desire for independence together with a just system of taxation and an opportunity to develop the resources of the country and a wise system of re-forestation. One of the interesting landmarks on the Eastern slope of the Lebanon is a stone with the inscription:

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|---|---|
| DELIM | i. e. |
| SYLV | Hadrian's |
| HADR | Forest |
| IMP. | Preserve. |

Under the Turks there has been no "forest preserve" and even the Cedars of Lebanon have been decimated. The commissioners who have been sent by the Peace Conference to Syria to ascertain

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for all of its inhabitants without distinction as to race or creed. I say Great Britain because of the peculiar interest of England in that part of the Orient, and because of her immense sacrifices in bringing deliverance to all Mesopotamia, including the province of Diarbekir, which lately has been occupied by British troops, but above all because we have a great confidence in the British sense of justice and in the British virtue of religious tolerance which she has so brilliantly demonstrated in India and Egypt. For this reason we are respectfully petitioning the Peace Conference not to entangle our fair land of the Two Rivers with the dreary land of the desert.

ISYA JOSEPH.

Port Chester, N. Y., Feb. 10, 1919.

[3] Maronites: "A papal sect, the ancient Monothelites, who accepted the papacy 1182 A. D., during the Crusades. They get their name from John Marōn, monk, priest and patriarch, who died 707 A. D. They adhere to the Oriental rite, conducting service in the Syriac, a language not understood by the people. The only sin unpardonable by the priests is reading the Bible. The people are chiefly peasants, in Northern Lebanon, an illiterate people, and an educated priesthood, sworn to allegiance to Rome and yet having a married parish clergy. Their head is the Patriarch of Antioch, living in Lebanon, and regarded by the people as hardly inferior to the Pope."—(*Fifty-three Years in Syria*, H. H. Jessup.)

the desire of the people by some form of referendum with regard to the power which they would ask to have exercise the mandate of the League of Nations, will ascertain the ratio now subsisting between the Moslems and the so-called Christians of this province. In the Lebanon the Christians are in a majority, unless the systematic starvation practiced by the Turks has decimated them. This includes the Maronites, Greek Catholics and Protestants, but in the cities other than Damascus the Moslems probably would be in the majority. I do not here take into account the Druzes[4] of the Lebanon nor the Nusairiyeh[5] in the mountains

[4] Druzes: The Druzes are neither Moslem nor Christian, but a peculiar, secret, mystic sect, having no priesthood and no assemblies for worship, claiming to be Unitarians, or believers in one God, infinite, indefinable, incomprehensible and passionless, who has become incarnate in a succession of ten men, the last of whom was the mad Egyptian caliph, Hakim b'amr Illah, who was assassinated A. D. 1044. They are more of a political than a religious society, and the national spirit is intense. The Druse nation can neither increase nor decrease. It is lawful to pretend to believe in the religion of any sect among whom they dwell. Among the Moslems they are Moslems, among the Jews, Jews, among the Greeks they are Greeks, among the Romanists they are good papists, and among the Protestants they are Evangelical Biblical Christians. In politics they look to the English for protection, and have always favored the American schools. They are courteous, hospitable, industrious, temperate and brave. The okkal, or initiated class, use neither tobacco nor liquors of any kind. Any one leaving their sect for Christianity would be disinherited."—(*Fifty-three Years in Syria*, H. H. Jessup.)

In the year 1872 they suffered a serious disappointment. It was the year predicted as the final crisis or cataclysm of their religion. Their prophet El-hakem, who claimed to be an incarnation of the Deity, promised when he died, 1021 A. D., to return with an immense army from China, overthrow Islam and subject the earth to his sway.

[5] Nusairiyeh: They hold to the transmigration of souls, that the souls of all men at death pass into new bodies, and that unbelievers are at death transformed into some one of the lower animals. They believe that the spirits of Moslem sheikhs at death take the bodily form of asses; that Christian doctors enter swine bodies; that Jewish rabbis take the form of male apes; that wicked Nusairis enter into domestic animals; great sceptics among them into apes, while persons of mixed character enter bodies of men of other sects. They simulate all sects, as do the Druzes, and on meeting Moslems swear to them that they likewise fast and pray. But on entering a mosque they mutter curses against Abu Bekr, Omar and Othman and others. They say, "We are the body, all other sects are clothing; but whatever clothing a man may put on, it does not injure him, and one who does not simulate is a fool, for no reasonable man will go naked in the market-place." So they are Christians with the Christians, Jews with the Jews, and all things, literally, to all men.

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north of Tripoli. It has been reported that during the war by the systematic starvation of village after village in the Lebanon the number of the Christian population has been diminished, some estimates reaching as high as 100,000. Whether this be true or not there would be no expectation of a constitutional government in which the Christians of Syria could have the majority.

It will be noted that this discussion of the province of Syria makes no account of the so-called Zionist state, to include Jerusalem and perhaps the province of Judea. To the writer this plan presents no features entitling it to consideration. Politically it is an iridescent dream. That there should be, under a constitutional government to be erected under the tutelage of a mandatory of the League of Nations, absolute freedom of immigration to the Jews is unquestionable, but the movement, judging from the past, is not a national movement on the part of the Jews. Many of their leaders are lukewarm in their advocacy; many of them are frankly opposed to it, and, so far as a Jewish population in Syria is concerned, it might be said as a broad generalization, that the Yahudi or Jew as a member of the community is anathema alike to the Arab and to the Turk. Under international protection and as a place of refuge for the pauper Jews of Russia and southeastern Europe, the scheme of Baron Hirsch, philanthropic as it was, has not even yet resulted in creating an adequate nucleus for a national life. I am aware that this Zionist propaganda has ardent supporters in Eng-

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They have secret signs, questions and answers by which they recognize each other. For example, one says on meeting a stranger, "Four, two fours, three and two, and as many more twice over in thy religion, what place have they?" Answer: "In the Journeying Chapter," etc. They use signs, and they use the interlacing triangle. In their secret worship they partake of bread and wine. They have borrowed from the Bible, the Koran, and from Persian and Sabian mysticism. They teach that out of man's sins God created Satans and devils, and out of the sins of those devils He made women, and hence no woman is taught their religion. When the initiated meet for prayer to Ali, guards are placed to keep the women at a distance. Their most binding oath is to swear by the faith of the covenant of Ali, prince of believers, and by the covenant of "Ain Mim Sin." Soleman bribed one of the chiefs of the "Northerner" Sect of Nusairis to tell him the "hidden mystery," which proved to be that the heavens are the impersonation of Ali Ibn Abu Talib; the wine-colored river in heaven is Mohammed; and the milk-white river is Salman al Farsi; that when we are purified from earthly grossness, our spirits will be elevated to become stars in the Milky Way, etc.

land and in this country, but, so far as I have any opinion in the premises, it is adverse to the erection of a separate state interrupting the continuity of the province of Syria to the Egyptian frontier, and is not based upon any of the fundamental ideas of opportunity for autonomous development to a race or nationality outlined above. It does not represent a national purpose so much as a racial sentiment. The Jews in the United States as a class covet the name of Americans and deprecate hyphenation. But in any event, should there be recognized such a community or state, it should not be allowed to extend its boundaries beyond the old province of Judea, except perhaps that it might have access to the sea, say at Jaffa.

### ARMENIA

The situation of Armenia seems to have been more perfectly crystallized than that of any other one of these groups. The so-called "Secret Treaty" made in 1915–1916 during the war, between France and England, relating to the responsibilities of each in respect to Syria, Armenia, Mesopotamia, and other parts of the Ottoman empire, was in the nature of counting chickens before they were hatched. In another connection I have asked whether President Wilson, when he enunciated his fourteen points and four principles and four great ends, was or was not in ignorance of the provisions of this treaty. If he had knowledge of them then he would not have uttered these great pledges to the provinces of the Ottoman empire without knowing he would have the approval and coöperation of France and England in fulfilling them. If he did not know of them, the provisions of this treaty may be deemed to be waived, by the joint declaration above quoted, no less than if the powers that made it enter into the peace treaty and the concomitant covenants of the League of Nations. For to whatever power that league shall issue its mandate in respect to Armenia, it could only be France, England or the United States, to which such mandate would issue. Their consent to the peace treaty and the covenant of the league would amount to the abdication of any special privilege or right which either may believe herself to have achieved by virtue of these stipulations plus their joint victory over the Turk. Armenia comes to the convention requesting recognition of her independence. She has history and geography to aid in her claims to definite national boundaries. But her neighbors-to-be constitute the reason of her willingness to be under a temporary tutelage. The Turk will be on her western border. The province of Syria on the south will give her little concern. Persia on the east is and will be too weak to trouble the new nation unless incited or helped by the Great Bear on the north, whose claws of aggression may be assumed to be clipped if the Dardanelles be "opened as a free passage to the ships and commerce of all nations."

To what should this tutelage extend, and what is the Armenian purpose in desiring it? The answer is reasonably obvious. The new nation contemplates:

1. A constitution guaranteeing to all its inhabitants the institutions of free government, including a representative congress.

2. A judicial system under which the rights so guaranteed can be protected, and life, liberty and the pursuit of happiness be realized.

3. A fiscal system, internal and external (for it will have littorals on the Black Sea and on the Mediterranean) including the administration of a preliminary national loan, a just tax law and a plan for development of the great mineral and other natural resources without sacrificing their ultimate control by the people of Armenia when and as developed.

4. A military and police system adequate to the purpose of self-defense and self-control.

But such plans must not be rushed or hurried. For, assuming the recognition of the new Armenia by the powers forming the League of Nations and the posting of "No Trespassing" notices on the Turkish and Russian frontiers, time is indispensable in which expatriated Armenians may return, give in their allegiance, and participate in the deliberations and elections requisite to launch the new government.

As to the constitution and the system of judicial administration no doubt much preliminary work has been done.

As to the details of a fiscal or military system, outside aid or advice is imperative. A national loan to be expended wisely and without extravagance, would doubtless be subject to a condition as to supervision of its expenditure for a period within which the new nation could reasonably be expected to get on a firm footing of development of its own resources. Without such a loan there would be the temptation to raise money by improvident exploitation of their rich mineral and other resources through concessions, as a result of which the bulk of these great assets might fall under foreign control.

## GREECE IN ASIA MINOR

With the demands of the fourth group, the Greeks in Asia Minor, the following situation presents itself. From classic days they have been indigenous to the soil. Crossing the Aegean as colonists they settled in another jurisdiction and took the chances of such settlement. But at the same time they have created the agriculture and commerce of western Asia Minor. Numerically, they are in certain districts in an overwhelming majority, and, so far as oppression goes, they come within the purview of protection of the President's promise on entering the Great War. They figure their losses by the massacres as but little less than do the Armenians. To those of us who favor the constricting of the boundaries of any Turkish rule to the narrowest possible limits, the idea of extending the power and sovereignty of Greece over the western shores of Asia Minor, and for a considerable distance back into the hinterland, commends itself as in the interest of justice and of civilization. The limits of Greece are too narrow to contain her population. And it is true in a large sense that the government of Greece under its present Prime Minister would give promise of restoration of order and of the establishment of a just government in western Asia Minor. Moreover, the relation of the Greek Church to the civil and political life in Greece is such as to afford a guaranty of the continuance of such just government if the Grecian sovereignty were so extended. The Greeks are naturally maritime traders—the Turk is a naval joke.[5]

## THE RESIDUARY LEGATEE

As to the future of the Ottoman Turk—shorn of his territory, disgraced in the judgment of the civilized world, confined between boundaries having a stronger Greece on the west and an industrious and flourishing Armenian state on the east under the tutelage and guardianship of one of the great powers of the world—his fate calls for no sympathy. It is astonishing that from British sources there is a constant reëmergence of the sentimental appeal to preserve the integrity of the Ottoman empire! That such a sentiment should effectually sway the judgment of the great powers seems inconceivable.

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[5] NOTE: This prefiguration of the matter has been since justified by the landing of two divisions of the Greek Army at Smyrna, under protection of Allied warships.—ED.

## THE BAGDAD RAILWAY

Leon Dominian in a review in *The Geographical Review* for January, 1919, of Morris Jastrow's book on *The War and the Bagdad Railway* points out that the whole history of Asiatic Turkey is a record of traffic and transportation. It is this fact that, so far as Egypt was concerned in its relation to the Babylonian dynasties in the past, and so far as the whole world is concerned today in questions affecting the Near and Far East, makes the question of control of the caravan trade avenues overland to the Far East always a question of intimate international concern. The caravan routes from Egypt up through Palestine to Hamath are now replaced with railroads connecting the new Bagdad railroad, making available, not only for the support of the new Armenia but for the world, its rich agricultural resources, its manufactures of silk and woolen rugs, and also its resources of iron, silver, coal, zinc, manganese and copper, practically combining all the previous problems of transportation in the problem: what is to be the future of the Bagdad railway? Except for outside foreign influence in localities and the existence of the so-called "caravan routes," there is no adequate system of roads in Armenia or Syria or Arabia. Dominian points out, as it had been previously developed by Ratzel,

> That periods of prosperity in Asiatic Turkey corresponded to periods when roads were adequately policed and travel was safe. That there was such a condition existing from a time some six centuries before Christ and lasting through Byzantine times, but that the coming of the Turks brought desolation and stopped human circulation. Poverty grew as travel diminished.

It is obvious that the railroad as now projected and built (the exact facts not yet being fully known as to the continuity of the line through to Bagdad to meet the military lines built by the British during the war) was due to German money and influence in Turkey. But the fruits of this great project are to be reaped primarily by the regions through which the railroad runs, and the regions which have railway communication connecting with it as a trunk line; and, secondarily, by international trade. This railroad would run when completed through the dominions of several powers, and therefore ought, as much as Constantinople and the Dardanelles, to be internationalized. Whatever the powers given to any mandatory under the League of Nations Covenant, assuming it to come into operation, one of such powers to be expressly stipulated in the decree appointing the mandatory, should be the governmental power of consenting to the internationalization of such an important commercial trade route.

## CONCLUSION

To sum up:

1. Turkey should be shorn of her suzerainty over the four groups above enumerated.

2. The Armenian Republic should be recognized with the probably immediate result that much of the Turkish population within its new boundaries will remove itself to the Turkish districts of Anatolia, and the Armenians scattered through Anatolia and the remaining fragment of European Turkey may be expected to return in large numbers to their native land. The Greeks of the Black Sea littoral have always been on good terms with the Armenians, and there is no reason why they should not become willing subjects of the new Armenian state. In fact, the present Greek government has expressed its willingness to have the Greeks of Pontus attached to an independent Armenia.

In respect to both of these groups it is well to repeat what has been elsewhere asserted, that the mere fact that the United States might be a mandatary for the new Armenia would not mean that it would be the sole link between Armenia and the world. French influence or French capital might have free access to the new republic, and at the expiration of the period fixed in the mandate to the United States, the people would be free to relate themselves to any sphere of influence and to have accepted as their creditor any power whose business men are willing to make their investments in the new dominion. No mandatary in addition to accepting the responsibilities laid upon it of preserving order, of developing a stable government, would for a moment reject the capital that might be offered, from whatever source, in the development of such resources and in assisting to put the new nation upon a sound self-supporting basis. The selection of the mandatary should depend largely on its disinterestedness and the implied guarantee that it will not endeavor to exploit the province for its own profit.

3. Whether the province of Syria could become a nation in as short a time as that of Armenia is doubtful, because of the diverse and heterogeneous elements to be dealt with and of the fact that Syria has been the stamping ground for contending races, religions and armies since the days of Rameses, Thotsmes, Tiglath Pileser and Assur bani Pal. The rocks above the Dog River at Beirut still retain records of the achievements of these great warriors, and at one time had graven upon them a record by Napoleon, which was afterwards, it was reported, chiseled out by direction of the British! But under the influences of education the Syrians have developed a high degree of intelligence, alertness and ability and are fully capable, if internal jealousies and factions do not impede or prevent their national development, of becoming a self-sustaining nation.

I do not agree with the claims of Prince Faisul that the Arab kingdom should include Syria. Arabia is huge. Its interior table-land has vast possibilities if capital and industry are admitted to develop its resources. Syria is a separate entity, has distinctive resources and ought not to be relinquished to the intolerance of purely Moslem rule. I confess I do agree with Faisul's objection to a French protectorate. He points to northern Africa and says that while French colonial government is benign and orderly it does not develop the people governed into good Arabs but into "first-class sham Frenchmen." The Oriental mind is keen and in this instance his analysis is profound. Mr. Lewis S. Gannett thinks Prince Faisul as the leader of the Arab army should be selected as the ruler of Syria. I believe such a selection would be unwise as tending to the ultimate aggrandizement of the kingdom of Arabia, and not in the real interests of separate Syrian autonomy.

4. As to the kingdom of Arabia—it is a question whether it would require to be under the tutelage of a mandatary of a league

of nations. They do not ask military protection. They have all the seacoast their commercial needs require. It would be interesting if, under international recognition they were protected from outside attack, and coming into the sisterhood of nations, were required to abandon their exclusion of outside influences, and were subjected to the civilizing processes of Christian education. They might renew then their title to international respect and achieve a position of dignity and power among the nations of the world.

## EARLY HISTORY OF ASIA MINOR

A significant feature in the history of Asia Minor has been the part played by that region as the great passageway from the more remote East of migratory hordes driven by pressure from the rear. Now the natural trend of these hordes is towards the south and not northwards. The Turks, who obtained a strong hold in Asia Minor in the eleventh century, would have been confined to extending themselves within this region and to branching out southwards, had it not been for the internal quarrels of the Byzantine Empire, which led one of the rulers in 1341 to call upon the Turks to assist him in the struggle against a rival. Geographic conditions in Asia Minor are not favorable towards the formation of a great central empire. The country is cut up by mountain ranges, mostly running north and south. It is separated by a formidable mountain range from what is known as the "fertile crescent," the strip along the Mediterranean which is the bridge connecting the African continent with Asia, and which as it leaves the Mediterranean forms a crescent, the other end of which runs along the Euphrates to the Persian Gulf. This "fertile crescent," the seat of an advanced civilization thousands of years ago, with the Euphrates Valley at the one end and the Nile Valley at the other, has always been a magnet attracting the northern hordes that passed from some eastern region into Asia Minor. But in Asia Minor itself no empire was ever formed that succeeded in welding the various nationalities of the region into a definite and permanent union. We must here also be fair to the Turk, and recognize that his failure to establish a strong empire in Asia Minor was not due entirely to his inefficiency, but in part to natural conditions, which even Greece and Rome failed to overcome. Even the old Hittites, a most warlike people, who ruled in Asia Minor about fifteen hundred years before this era, never had complete control of it. Moreover, the mixed population of Asia Minor added another barrier to the natural one, for an attempt to weld a heterogeneous population into a larger nationalistic or political unit lay beyond the political horizon of antiquity. It is distinctly a modern and more particularly a western point of view that prompts us to make the endeavor—as is done on so large a scale in this country—of uniting a variety of nationalities and of various races into a political unit. Even a small island like

Great Britain includes three nationalities, English, Scotch and Welsh, each distinct in origin, but together forming a great nation. In ancient times such a process was impossible, and the East has always been behind the West in that respect. Despite the great contributions of the ancient and of the later East to civilization, politically it has always lagged. For this reason it is hardly presumable that within any conceivable period a movement for the political combination of the different ethnic elements—not to speak of differences of religion—in Asia Minor and the contiguous countries, Syria, Palestine, Mesopotamia and Arabia, would have any chance of success. Perhaps in the far distant future, when under western influences more advanced political ideas make their way through the East, a federation of the nationalities of Asia Minor may be possible, but for the present we must deal with conditions as they have developed historically in that region. This suggests a division into a number of states according to geographical and ethnic boundaries.

### MESOPOTAMIA

Beginning with countries contiguous to Asia Minor it must, of course, be evident that Mesopotamia can be expected to flourish only if organized as a separate state under the tutelage either of an international commission or of a western mandatory power. The Euphrates Valley, with its northern extension along the banks of the Tigris up to the point to which the Tigris is navigable, has always formed an independent state along natural geographical lines. To this day the population in Mesopotamia, to use the conventional though somewhat inaccurate designation, is much more homogeneous than the rest of Asia Minor. To a large extent the population represents the descendants of the old Babylonians and Assyrians, though with considerable mixtures, in the course of ages, of other peoples, notably of Persians, Turks and Syrians, not to speak of large Christian settlements composed of those belonging to Indo-European races. English influence has been pronounced in Mesopotamia, particularly in the southern portion, ever since the end of the eighteenth century. A good deal of educational work has already been done among the population through missionary efforts in Bagdad, Mosul and elsewhere. On the whole, conditions are much more stable in Mesopotamia (except for the outlying marshy districts in the south) than, for example, they are in Arabia. During the years just preceding the outbreak of the war, English engineers, under the leadership of Sir William Willcocks,[1] were active in building the first of a great series of contemplated barrages, the cost of which would in time have been more than repaid by the increased yield of the land. The first of these barrages was actually completed in December, 1913, and ready for operation; and no doubt English enterprise will see to it that the work, which will transform a neglected country into a veritable paradise that marked it in ancient times, will be carried on under peaceful and more auspicious conditions. With the establishment of an orderly government, with the introduction of a system of education and with the regulation of the finances of the country, we may expect Mesopotamia to play an important part in the resuscitation of the East under western tutelage.

## ARABIA

Coming next to Arabia, one gathers the impression that that vast region is at present very much in the same condition in which it was prior to the appearance of the Prophet Mohammed in the seventh century—broken up into districts under the control of tribes, without much semblance of unity among them. Since the outbreak of the war, a portion of Arabia, which contains the two sacred cities, Mecca and Medina, has made itself independent; and the authority of the Sherif (or, as he is called in European parlance, "king") of Hedjaz has been recognized by England. It may be that by once more transferring the headship of the Moslem Church from Constantinople to Mecca the political union of Arabia will be brought about. Such a union, however, will demand a strong personality, and if such a one should arise there would also be the possible danger of outbursts of Islamic fanatics, seized with the idea—as were the followers of Mohammed—of spreading Islam by force of arms. The religious question, which can hardly be separated from the rise of a large empire in Arabia, requires delicate handling. Even at the present time, despite the existence of a railroad up to Medina—and which eventually is to reach Mecca—a non-Moslem cannot enter either of the sacred cities under pain of death. This of itself shows how difficult the task will be of bringing Arabia under the influence of modern and western ideas. For the present, nothing further can be done than to aid the Sherif or the King of Hedjaz to establish order in the country controlled by him, and to make sure of the establishment of a decent government in southern Arabia or Yemen which, it is fair to assume, will not be willing to recognize the supremacy of any ruler of the Hedjaz.

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[1] Sir William Willcocks, *Irrigation of Mesopotamia* (London, 1911). The full plan calls for six barrages at a total cost of 29 million Turkish liras.

### PALESTINE AND SYRIA

In Palestine and Syria the situation is much simpler. Conditions are more favorable in both these countries for a rapid recovery from misrule and neglect, because they have come during the past half century more directly under western influences than other parts of Asia Minor, in part through settlements of Europeans—Christians and Jews—attracted to the country because of its historical association or for other reasons, and in part through educational efforts in which our own country has taken an important and distinguished part. In the success of the Protestant college at Beirut, of Robert College of Constantinople and the schools established in various parts of Palestine and Syria, by English, American and French missionaries—to which we must add the activities of the Alliance Israelite Universelle in organizing schools for Jewish children in various parts of Palestine—one sees the beginning of a *genuine* solution of the Eastern Question. Such educational efforts interpreted aright the real meaning of the decline of the Turkish Empire as affording an opportunity for western lands to bring about a resuscitation of the East.[2]

### WESTERN INFLUENCE

The country is there—Palestine, Syria, Mesopotamia—as it was thousands of years ago. The physical conditions are the same, the people even, to a large extent, are the descendants of those who produced a high order of civilization millenniums ago. All that is needed to bring about a resuscitation is to reproduce the favorable conditions that existed in the "fertile crescent" in antiquity. In Egypt through a broad liberal policy, involving the education of the people, England has changed an utterly neglected and ruined country into a great center of modern activity, with western influences and western methods dominating the life of the people. This may be taken as an index of the changes for the better that will be wrought in Palestine and Syria once those countries are more completely brought under the sway of western ideas of education, western methods of government, western sanitation, and western commercial and industrial activity.

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[2] I have endeavored to set this idea forth in greater detail in my book *The War and the Bagdad Railway*, pages 138–152.

This brings me to my main point, to wit: That the resuscitation of the East, which alone would furnish a satisfactory solution of the Turkish Question in Asia Minor and adjacent countries, cannot be accomplished without the direct support of the western powers—precisely as Egypt, Algiers and Tunis have been so vastly benefited through the two great western powers, Great Britain and France. What applies to Mesopotamia, Arabia, Palestine and Syria is also applicable to Armenia, which will without question be organized as an independent state through the efforts of the Peace Conference. Armenia, too, needs to be brought under western influences. The intelligence of the Armenian population is such that by their own initiative they promoted educational efforts among the population, even while they were under Turkish dominion. It will, therefore, not be long before, with the support of the West, an orderly form of government will be established, a proper system of education introduced, and steps taken for the building of necessary roads and railroads, and for otherwise improving the internal conditions. Armenia, we may feel assured, will welcome western influence, whatever shape that influence may take.

## THE RECONSTITUTION OF TURKEY

Assuming that the reorganization of an Armenian state will cover the eastern part of Asia Minor, running from the Black Sea just east of Samsun, diagonally in a southwestern direction with an outlet on the Mediterranean, the part to the west up to the Aegean should properly be set aside for the reconstitution of Turkey in Asia Minor. The Turks belong to this region, in which they had been settled for almost a millennium before they crossed over into Europe. Here in Asia Minor they established, under the

Selyuk branch, a government which prior to the coming of the Ottoman Turks, had made notable contributions to civilization, more particularly in the domain of architecture and the decorative arts. But the Turks themselves, as the history of Turkey since the revolution of 1908 has shown, need to be placed, for a time at least, under western tutelage. The young Turkish party has bitterly disappointed the high hopes that were set in it. It lent itself to political intrigues of an even more mischievous character than those which characterized the régime of Abdul Hamid. The young Turkish party gave a helping hand to Germany's sinister scheme for the political dominion of the Near East. They were willing to see Turkey reduced to the rôle of a mere pawn in the hands of Imperial Germany. It is generally said that a people has the government that it deserves. An exception must be made in the case of the Turks, who have always been better than their government. The testimony of those who have lived for a long time in Turkey and who know the Turk best bears witness to the fact that, when not stirred up to fanaticism by a crafty and intriguing government, the Turk shows many good traits. He has always suffered by having a government that was dishonest as well as inefficient. The peace of the world would again be in danger if we allowed the Turks in Asia Minor to fall under the influence of crafty and scheming leaders. For self-protection as well as for the betterment of the Turk, we must place Asia Minor under western tutelage.

## THE TUTELAGE OF THE EAST

Now, how should this tutelage over Turkey in Asia Minor, over Armenia, over Palestine, Syria, Mesopotamia and Arabia be exercised? My own feeling, based upon many years of study of the ancient and modern Orient, and which I have endeavored to set forth in various publications, is decidedly in favor of a tutelage of the East under the guise of international commissions. I cannot help feeling that things would be safer and that economic, political and educational development in Asia Minor and in adjacent countries would be more normal if it were possible to place these countries under the protection of the League of Nations, with international commissions established in each of them as the directing hand in constructing democratic forms of government, in educating the people to self-government, in regulating finances and in promoting economic growth. The disposition, however, of those to whose hands we have entrusted the regulation of international affairs at the Peace Conference appears to be in favor of handing over each one of the countries involved to a single power entrusted by the league with mandatory authority.[3] If this view should finally prevail there are only three countries among which the mandatory power for the Near East can be distributed—England, France and the United States—for Italy is hardly prepared to undertake at present a work of such character. It would be admittedly unfortunate both for England as well as for the world if she alone were to be the mandatory power for the entire Near East. If she accepts the commission for Mesopotamia, Arabia and Palestine, she will have her hands completely filled. France, it is generally believed, will not care to extend her mandatory power beyond Syria, in which she has for the past sixty years and more taken a special interest and where she has done so much to improve conditions and to safeguard the lives of the population.

## THE RESPONSIBILITIES OF THE UNITED STATES

There remains, then, the question whether the United States should accept the mandatory power for Armenia and for the reconstituted Turkish state in Asia Minor. I exclude Constantinople for there appears to be a general consensus of opinion that it should be placed under the control, for the present at least, of an international commission, somewhat similar to the International Danube Commission, established by the Peace Conference of 1856. I venture to think that if the offer is made to this country to undertake the task of political guardianship over a portion of the Near East it will be impossible for us to refuse. And that for two reasons. In the first place, we are pledged in a measure by the valuable constructive work that we have done in the domain of education for the countries of the Near East to continue such beneficent activities. This kind of activity indicates the attitude of America towards the East; and it should be a source of justifiable pride for us to realize that the European powers have perceived the necessity of *aiding* the East to recover some of her lost prestige as the policy that must be substituted for mere political power and commercial exploitation. There is no reason why that which has been done so successfully by Americans unofficially should not be carried on officially under the direct auspices of our government.

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[3] It is to be hoped that an exception will at all events be made in the case of the Bagdad Railway, the affairs of which ought not to be placed in the hands of any *single* western power. The enterprise should be internationalized with a board of directors composed of representatives of various countries. Had such an organization been effected at the inception of the railway, the pan-Germanic scheme would never have been developed. See further on this point, Jastrow, *The War and the Bagdad Railway*, page 146.

Furthermore, it is impossible to suppose that the world can pass through such an upheaval as the last war and leave any great nation like ours in the same position of isolation from world politics as we lived in before this war. We are forced by circumstances beyond our control to participate in the momentous problems at present engaging the attention of the conference at Paris. We were drawn into the war after it had been going on for over two years and a half. In case of another international conflict it is almost a certainty that we will again be involved. We must, therefore, from motives of self-protection participate in the present deliberations to solve international problems, with which we as a nation have no direct concern, both because of our part in the war that has come to an end and because in the event of another conflict we certainly will want to have something to say at the time of its *breaking out.* We must, therefore, be willing to take a share of responsibility for conditions in the Near East, because the East has been and will continue to be one of the danger zones. Prior to the war of 1914–1918, there were two other international conflicts, the Crimean War of 1854 and the Russo-Turkish War of 1876–1877, in which the European Powers were all directly or indirectly involved and which broke out over the Eastern Question.

One can well understand the hesitation of many thoughtful people in this country at the prospect of our becoming involved in the problems of the East. But the answer to all such objections must be that we cannot shirk the opportunity of aiding in the resuscitation of the East, if such an opportunity comes to us. It would, to be sure, be no gain to this country to undertake the mandatory direction for Armenia and western Asia Minor; and it is possible that we may also be asked to undertake the guardianship of Constantinople. It would be, however, a great opportunity for service, for continuing on a larger scale and in an official capacity what we began more than half a century ago by establishing educational institutions in the East through missionary and other private efforts. If there is such a thing as destiny in the fortunes of a people, events at present would seem to point to our undertaking a part of the work of the resuscitation of the East. New conditions always involve new duties. If the conference should decide on the plan of mandatory powers for the countries of the Near East, instead of international commissions which, let me emphasize once more, appears to me to be the far better and safer plan, we must be willing to take our share and to render further service in the work of progress and enlightenment to which this country has been committed ever since its birth.

# The Disposition of the Turkish Empire

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THE disposition of the territory now composing the Turkish Empire does not dispose of the Turk. Nearly all plans for the division of Turkey into new states overlook the fact that the Moslem population of Turkey is at least four-fold the Christian population. Force from without would be necessary to disfranchise and hold down the Moslem—a task which the Christian population would be wholly unable to achieve. This Christian population is certain to be in a majority in only sections of the Turkish Empire in Asia. In but one of the vilayets or departments in Asia Minor, namely Smyrna, it is in a fair majority of about 50,000 in a population of 750,000. In nearly all other parts of the littoral of Asia Minor the Turk holds a majority in every unit save possibly one city, Trebizond. The Armenian is in the minority in every vilayet and in every city except two and these are smaller sized. The Armenian provinces of Russia added to the Turkish vilayets, in which there is a strong proportion of Armenians, give a total in favor of the Armenians. In Syria the Moslem is in a majority of at least four, probably five, to one. Taking the country around Syria and Palestine a vote would place a Moslem government in control. In Syria, however, the Moslem population is Arab. In Armenia, with small fractions of Turks, the Moslem population is Kurdish. In Asia Minor, out of a population of 10,000,000 there are about 7,000,000 Turks. These fill the center of Asia Minor so completely that the Christian population is negligible; they are in a majority along the entire coast districts of Asia Minor, except part of the Cilician plain, already pointed out as Smyrna, the vilayet of which it is the center, and Trebizond.

This population of 7,000,000 Turks is the core and power, the strength which has given the Ottoman race its supremacy in the Ottoman Empire. However, the question presented by Turkey cannot be limited by Turkey. The Turkish race began to play its part in history in 732 A. D., when it was a strong and fully organized state on the borders of Kansu, a northeastern province of China. It already had a written language, a language still spoken by the Youruks of Asia Minor. This race expanded until it reached Constantinople on one side and Peking on the other, and there have been periods in which it ruled both and all the lands between.

It is possible today to start from the gates of Scutari, a suburb of Constantinople, and ride to the gates of Peking and in the long journey of 9000 miles never be more than two days from a village in which Turkish is spoken. No other tongue in the world has this span. No other has so nearly preserved its solid foundation of ancient Turkish, and assimilated a vocabulary for the purposes of faith and philosophy drawn from Arabic in its roots, and in administration and in letters from Persia. The only language which compares with it in this lingual structure is English, with its basis of Saxon, its addition of Norman and French and its assimilation of a great vocabulary obtained directly or indirectly from the two classic tongues of antiquity. This Turkish race once held Asia in fee. It has ruled in China, it conquered the Abbasside, Caliphate in Bagdad in the eleventh century, and four and a half centuries later it reached the Danube. Even three centuries ago, there was a period when different branches of this race were dominant from the headwaters of the Danube to the mouth of the Amur. Cruel, relentless, murderous, stained with historic crimes, no race with the record, with the staying power, the independence, the sobriety and the decision of the Turk can be set aside as negligible in the history of the world. Tolerant in the period from the fifteenth to eighteenth century—when European countries remorsely crushed all dissenters, from the expulsion of the Moors and Jews from Spain to the expulsion of the Huguenots from France—Turkey tolerated in its empire races alien in language, in religion and in culture. Among them the Armenian was the oldest and most powerful, and still possesses ability and knowledge, unmatched by any other race in the Turkish Empire.

The result of this early tolerance was that Turkey has been guilty in this very decade of massacre and deportation, once familiar in Europe, but now justly condemned. The Turk has lost the right to rule. He is condemned by the civilized world. He will never be allowed to exercise political power or rule in our generation over any subject race.

But it is not possible either to deport or to massacre the Turk. He remains the largest single factor in the Turkish Empire, 7,000,000 strong in the field and cities of Asia Minor. While other races are nowhere in an unbroken majority, the Turk covers the center of Asia Minor and at more than one point overflows to its coast. Ignorant, without mercy, likely to explode in massacre, knowing nothing of modern civilization, he has been led to destruction by those of his own race who were "Made in Germany." The failure of the Turkish Empire began when Abdul Hamid sent his young officers to be trained in German military schools and added relentless methods of Prussianism to the sporadic and fanatic massacre.

If the Turkish Empire were held together and administered as a whole the Turkish race would surely but slowly come to the front. If the Turkish Empire be divided, there will remain in the central strategic point of Asia Minor a race which multiplies as fast as other races—some think faster—solid, calm, warlike, but needing civilization in order to equal that period in its past when it assimilated the art and letters of Persia, the faith and philosophy of the Arab, and the law and administration of the Roman Empire.

A recent proposal from England is that the Turks of Asia Minor shall be organized as a protected state under the rule of the house of Seljuk—whose last representative still lives at Konia (though at present an exile at Beirut) and represents the ancient glory, the serene faith and urban manners of the old Turk. Such a state would be not unlike the realm ruled by the Nizam of Hyderbad in India and it would be twice as large in area. It would have a far stronger population and in another generation its army would be the strongest within the current boundary of Turkey. The presence of such a Moslem state, once its leaders were educated and its people had gained the advantages of civilization, would be a perpetual menace to all the Christian states about it. It would have sympathies with Bulgaria and Hungary. It would be the hope of the Moslem populations of the empire. Nothing but a league of nations strong enough to suppress war could prevent an eventual explosion.

This central kingdom looking out on the Mediterranean, the

Aegean and the Black Sea would be also the natural center, the leader of the entire Turkish race across Asia. This race today—ignorant for the most part, without laws, with a Moslem faith for many still little more than superstition, and an economy and culture similar to that of a thousand years ago—would in due time develop a spirit of race. The Turkish question then would loom large across the whole distance which separates the Far East from the Near East. The first consciousness of this is apparent in the attempt at a union between Afghanistan and the Central Asian Khanates.

Whatever solution we propose we come back to the great fact that the disorganized condition of Turkey is such that any arrangement which does not provide a fostering rule for all these different races and tongues, until education and civilization have made federation possible, renders certain some collision in the future. This is certain whether Turkey be divided into integral or autonomous parts, or be partitioned among many European nations, or part partitioned, and part held under European flags, Constantinople meanwhile being an internationalized city.

The primal difficulty through all this is that the Turkish Empire is not an accident, but an integral and economic unit composed of the plateaus, of Armenia, of Kurdistan, of Asia Minor; an Asian steppe dotted with lakes, with its two rivers of Mesopotamia, and last the Syrian coasts. For prosperity, for development, for civilization and for lasting peace these different portions need each other, and have not in a history of four thousand years ever been separated without a final and inevitable union.

Divide the Turkish Empire and economic disaster is inevitable. Divide it between European powers and in due season you will have a group of Polands. Set Christian minorities long subject to govern warlike Turkish majorities and explosions will follow. Carve out, as can be done by adding Russian Armenia to Turkish Armenia, an area with narrow Armenian majorities and an unstable equilibrium is certain, with a costly rule entailing heavy taxes. Do this in Asia Minor for vilayets partly Greek and you will have between these two unstable areas, a solid Moslem population, certain to gravitate to an *irredenta* movement and worse than Balkan wars will follow. Imagine the area from Maine to Nebraska and Dakota with New England 45 per cent Moslem ruled by 55 per cent Greek, and in Minnesota and Iowa 55 per cent of Armenians ruling 45 per cent of Moslems and the region between pretty nearly solid Moslem with 10 per cent Christian. Would there seem to you a stable basis for peace in the future over such a region without schools or railroads and embittered by racial and religious wars for a thousand years? Map drawing will not solve this problem.

None of these difficulties, however, is any excuse or pretext for Moslem rule over any Christian populations. This cannot be. As German and Austrian have forfeited the right to rule any subject races, so has the Turk for worse reason and greater crimes. Germany and Austria at least brought order and a more advanced civilization. Not the Turk. He has destroyed all that he built. His economic failure is as complete as his administration by massacre. The Turkish Empire is gone, never to return. The Turk remains, economically incapable. His taxation of subject races is as ruinous as his pillages. Great in a distant past, he has no future until schools, justice and order have again developed his race. Today he is without modern economic assets of any kind, except a dagged industry in the field and some capacity as a retailer in the city. Into the modern economic world, he has never entered. His religion itself is a bar. Trader in the dawn of his race, he has not advanced.

The Turkish Empire has gone after six centuries, four of conquest and two of defeat. Turkish territory remains, offering the world's most insoluble problem—racial, civil and economic. Both race and territory are bankrupt. Here is an area as large as New England, the Middle States, Ohio, Indiana, Illinois, Wisconsin, Michigan, Minnesota and Nebraska. It includes lands as fertile, mineral resources, except in coal, as great. It has the only coal in the Mediterranean. It holds a situation without parallel on the earth's surface, linking three continents, connecting the seas of Central Asia, the Black Sea and the Mediterranean to the Indian Ocean, and offering the shortest sea and rail route from the two great city centers of Asia in China and India with the great city center of Europe from Moscow to London. No possibilities today are greater and no reality more desperate. A census does not exist. Estimates based on poll-tax returns, corrupt, unreliable, manipulated, run to a population for this entire region of 20,000,000 in most books of reference. The calculation made ten years ago, when for a brief season there was sanity, purpose and patriotism in the conduct of Turkish affairs at Constantinople, reduced the familiar estimate of 20,000,000 to 15,000,000. Today, I believe the population of Turkey is not more than 10,000,000. The land is empty. The war alone has cost 1,000,000 lives in hostile operations. Massacres, famine and pestilence have slain at least 3,000,000 at the lowest and most moderate estimate. Refugees come back to tell me that a city which I knew in childhood with 40,000 inhabitants has but 6,000, with empty houses where dogs are devouring the dead, under the great basalt walls behind which Bdisarius withstood the shock and assault of Sapor, 1,400 years ago. In Mosul, cannibalism was rife last winter and the remains of six children, used for food were found in one house. "I do not expect you to believe this," runs a letter, "but I speak of what I know and have seen." The country-side is empty; brigandage is rife; the fields untilled. Great wastes stretch between what were once the lines of Russian, Turkish and English troops fighting for the empire for four years, wastes once populous.

This whelming disaster leaves this entire region without resources. Domestic animals are gone, neat cattle, horses, mules and asses destroyed for army food and transport, fruit trees ruthlessly cut under the direction of German officers to keep moving the solitary railroad which connects the capital with the interior and beyond to Arabia and its branches, a line 3,000 miles in all for a region that would cover our maps from Maine to the Mississippi. (The aggregate mileage of Massachusetts and Connecticut spreads over 600,000 square miles or eleven of our states.) By Moslem law, fruit trees have been sacred in war for 1,200 years and were spared when massacre swept away population. The German officer spared nothing. The entire area has been swept of metals. Fire has taken whole quarters of cities. Irrigation channels are dry. Seed-corn is absent. In whole districts everything woven has been seized to clothe troops. German system added to Turkish cruelty has left a land naked, peeled and forsaken.

At best in peace, Turkey was poverty-stricken. The vain effort was made to raise $125,000,000 of revenue at the rate of $10 a head of the population, when $5 would have been rapacity.

Even Egypt raises only $8 per head after thirty-eight years of English administration. Of Turkish revenue 43 per cent went to a debt charge yearly growing. Every efficient means of raising revenue was turned over to European usurers who sucked the life-blood of the realm. Germany has added to all these heavy charges for war-supplies. The aggregate of the Turkish debt none can know. Of the interest on the old debt 62 per cent goes to French bondholders and 29 per cent to German. French concessions siphon off all the profits of the trams and the wharves of the ports. Such railroads as there are, have for twenty years paid bondholders at the expense of development and equipment. The Turkish government has been corrupt and cruel, but no administration the world over has ever functioned under such pressure of foreign plunder. This was worked under a machinery of bond and treaty pushed inexorably by diplomatic pressure. All the embassies looked only to the spoils of their nationals and their bond concessions, privileges and opportunities under tariffs, exemptions and exterritorial courts, always partial, and often corrupt which gave the lands, the investments, the industries and the products of Turkish subjects neither growth nor profit, neither justice nor protection.

If Armenia be given a bare preponderance of Armenians by including Russian Armenians in a territory of about a quarter of Turkey, it will not for years be able to raise a revenue sufficient to meet current expenditures for civil necessities, let alone the needs of a costly armed gendarmerie to keep savage and armed Kurds—long superiors—in order. Syria has but fifteen persons to the square mile to tax; its 1,454 miles of railroads feeds 114,500 square miles (New York, Pennsylvania, New Jersey, Massachusetts and Connecticut with the same area have 46,000 miles) and its coal costs $41 a ton—though oil in the new region opened by England in the Kerbuk Bagdan and Karun River oil-fields will give Turkey all the fuel wanted at a cheap rate. Here, as elsewhere the future of all this territory is secure, if it can once be freed from usurious European bondholders who have rolled up a debt of $750,000,000 to which Germany added $204,000,000 in the war. As it stands, at par value the debt would be $1,000,000,000, or $500 per family on a population of not more than 10,000,000 starving, in dire poverty and without resources.

Kept together or divided, the territory of the Turkish Empire cannot be given an administration capable of sustaining development unless there is a large provision of new capital, whose future and whose security is certain, but whose credit and whose revenue must be provided for a decade to come or even more. This is the basic difficulty of the Turkish situation. Order can be easily gained and maintained. Conflicts between races and creeds can be adjusted. National aspirations can be secured by autonomy and local self-government until economic prosperity has come. The real difficulty is one of providing the capital by which any development is possible. This is not a new or untouched source, or one possessing forests, or vast water power. It is instead a territory long since cropped to the limit. In it is an area which could raise 300,000,000 bushels if it were once irrigated; it has mineral resources which made it the early center of the development of metals through all the period before the Christian era, but a rainfall barely sufficient for cultivation and needing the opening of irrigation on a great scale, and by provision in the shape of cattle and machinery yet to be made for either agriculture or manufacture.

These economic causes, not less than the jealousies between the European powers have led to the movement beginning in England and accepted by all Western Europe, proposing that the United States should be the mandatory to which the administration of the Ottoman Empire should be made. All the European countries are already carrying a debt which make new issues impracticable. The heavy losses of war have made all their man-power needed at home and they are without the capital necessary to develop a region whose development cannot for at least ten years meet the ordinary charges of government.

If the region is divided into different areas—Armenia, Mesopotamia and Syria—if the interior of Asia Minor is going to the Turks, and the coast parceled between different powers, whether this division be between European Powers, or between subject races, the same difficulties are to be met, and the same economic needs to be provided. The instant these divisions are made questions arise sure to cause contention in regard to the proposed boundaries of Armenia, of Syria and of Asia Minor. In brief, it leaves the interior of Asia Minor in the hands of the Turks, and the coast under other powers an arrangement doomed to economic failure.

If Asia Minor be parceled into a Greek end to the West, an Italian colony in the South, and some division along the Black Sea, its railroad development will be impossible except with the costly lines that come from the competing and conflicting management of transportation. Whether this should be done on the basis of giving the Christian minority a rule over the Ottoman majority, or the effort be made to furnish Christian majorities by gathering the Turkish population into the center of Armenia and frankly accepting the majority of the Moslem in Syria, the same racial and economic difficulties will exist. The country instead of having one Balkan peninsula as in the past forty years—source of innumerable woes—will have a Balkanized area in the center of Europe, another Balkanized area in the Balkans, and a third Balkanized area in the Turkish dominion.

Next November it will be one hundred years since American missionaries first landed in Turkey. During that period the American and his nation have been known only for works of mercy, of healing, charity, of education and of faith. The college education of Turkey in its most efficient shape is in the hands of American colleges endowed by this country. Every city has its American hospital. All creeds and all races have confidence in the American. The United States is the only land which is looked upon as unselfish, having no ambitions, and representing a system which desires not empire over the earth, but freedom in the world.

This sentiment is so strong that it alone would be more valuable in maintaining order than soldiers or gendarmerie. The security for the capital which would be invested, which would not be less than four or five billion dollars, would be the richest, the most fruitful and the best situated land on the earth's surface. What American administration can do has already been proved in the Philippines. Greater success would be met in Turkey. If this duty and this opportunity is declined—and the feeling against any enterprise of this order is strong in the United States—Turkey will be divided. The effort will be made to raise capital to organize governments, taxation will be heavy, resources will only be obtained at exorbitant rates of interest. Military expenditure will render a sound pledge as impossible as it has proved in the Balkan states, the army will play its share both in influence,

# An Eyewitness of the Serbian Apotheosis

### By Madame Slavko Grouitch

BEING an American married to a Serbian and having spent my early years in Europe as a traveller and student, it was as a cosmopolitan that I came to Serbia. Here for the first time in my European wanderings I had the impression of reaching home, so very similar were the conditions of life to those of my native state, West Virginia. The resemblance extended to the atmosphere of the home and to customs of farms and villages, but more particularly to that attitude of mind towards life which we consider peculiarly American, and which I may describe as liberty so great that it is not conscious of laws. The Serbian people have a conception of duty toward the state and a public spiritedness from choice which I have encountered elsewhere only in Switzerland and the United States. No change was necessary in order to meet the women and men of my adopted country. They knew more about America than America did of them.

I soon learned that the singleness of patriotic purpose which had impressed me in my husband was peculiar to everyone I met from King to peasant, from prime minister to goat's herdsman. All were dreaming, as their fore-fathers had dreamed for centuries, of a united Yugo-Slav kingdom which should include the whole 13,000,000 of their race. As I listened I wondered.

There were barely three and a half million souls in the little Serbia of that day. To the south there was a region spoken of as Old Serbia, because there had arisen the Serbian kingdom of the eleventh century; beyond that was the region we speak of as Macedonia (and which in my mind, until I became Serbian, had not been associated geographically with the Balkans) containing a million and a half inhabitants of pure Serbian race still under Turkish rule. I learned very quickly of loyal little Montenegro—proud of the fact that in the veins of every peasant was the blood of the heroes who had survived from the great battle of Kossovo in 1389, in which the Serbian people had lost their independence, all but that one towering citadel. I learned of Croatia, which I had, in common with most people, always thought of as a province repudiated a concession that should be for their material profit, but would enslave further their brethren in Austria-Hungary.

In 1913, looking conditions in the face, I could not see the way out to freedom and union for the Slavs of Austria. The great nations of the Entente had decreed a long era of peace, for which the weak peoples must pay the price in self-restraint, humiliation, and degradation.

Nowhere about me—in our own legation or in the allied countries—had I heard the suggestion that the liberty bells would ring in July, 1914, for Yugo-Slavia as they had rung in July, 1776, for this country. But the dream began to come true. The first cannon shot across the Danube proclaimed that the hour had come; that the beginning had been made, made by Austria-Hungary herself in an attack on the free peoples of Serbia. The beginning was not made by dreams of freedom, for the enslaved peoples of Austria-Hungary had never descended to plans for ruthless slaughter of women and children, as was done by the bombardment of the Serbian capital before its population could flee towards the interior of the country.

In the months that followed—when three times the Serbian people, though unaided by their allies and with insufficient ammunition for their cannon, resisted the invasion and overthrow of their country; with the dead so close together that I had to step over them in our hospitals to reach the living soldiers lying on straw; without any means of dressing wounds; with disease claiming thousands of victims—how could one hope for victory? And yet I saw hope on every face. No man in authority throughout those terrible months ever within my hearing spoke of a separate peace, of capitulation or surrender. And our splendid old prime minister when asked to capitulate on terms so advantageous to Serbia that it would have seemed at that time wisdom to accept them, replied: "Better to die in glory than to live in shame."

In the month of December, 1914, there happened a real miracle in Serbia, despite the fact that one-third of the country, and that the best of the farming and industrial region, had been invaded by the enemy. With one single railway line from Saloniki supplying its economic and military needs, the Serbian army manoeuvred its forces until the enemy was routed and driven from its country.

For eight months longer Serbia maintained her own frontiers, Austria being powerless until Germany and Bulgaria joined with her in a fresh attempt at invasion. This time they succeeded in cutting the railway line, encircled our forces, and compelled a general retreat to the Adriatic coast.

For three months, October, November and December, 1915, we tramped over those terrible mountains of Albania without food, without shelter, leaving thousands of dead by the roadside. Day by day I watched the faces of the Serbian statesmen, officers, and soldiers who escorted the diplomatic caravans, in one of which I had been placed. With that curiosity of the American intelligence to probe the very essence of other people's souls I eavesdropped at their minds to know what they were thinking now that their country was invaded, their army forced to retreat, their women and children given over to martyrdom, and all that the army had accomplished in 1912 and 1913 lost by retreat. We were retracing the steps of the victorious army of 1912—retracing them as a defeated army. Where were their hopes of union now? The answer was, "We are bound for Saloniki to join our allies and fight for the freedom of Serbia and of Yugo-Slavia."

With their people scattered, their government living in a borrowed Greek island, it seemed futile to speak of Serbia as a nation. They were reduced to just a little group of men depending upon their allies for money to pay their army, to feed their prisoners of war, and the few thousands of their own people in exile all dependent upon the charity of the allied nations, including America, which, although not as yet an ally had shown its sympathy and charity. Inside the country the women and children wept under the martyrdom meted out to a conquered people. They were tortured by the Bulgarians, and oppressed in every conceivable way by the Austro-Hungarians, and yet the army and government dreamed and worked for the deliverance, not only of Serbia but of the whole Yugo-Slav nation. The prisoners in German camps, the martyrs under the Bulgarian lash dreamed of Yugo-Slav freedom.

While America played a glorious and noble part in that deliverance, the action on the Western front was, of course, the event that permitted the attack on the South. Was it not the will of Divine Justice, as well as by consent of the great allied commander to whom we all owe so much, that the Serbian army, a few thousands of men, the remnant of the nation, should aim the first decisive blow of allied victory? The advance of the Serbian troops over mountains so high that only eagles or aeroplanes could be supposed to cross them struck the final blow for Yugo-Slav liberty, and the blow struck in the Macedonian mountains resounded to the extreme limits of Yugo-Slavia. "Where are you going?" asked a general of the French army of a Serbian wounded soldier whom he met on the road bleeding from a wound in the head. "That's not the way to the hospital." "I am not going to the hospital—I am going to Serbia and beyond that—I am going home to free Bosnia!" Within a month the face of every soldier of the Yugo-Slav forces was set towards home and the fight still to come for the liberation of the Slav provinces of Austria. There were men from Croatia, Slovenia, Bosnia, and Herzegovina as well as from Serbia fighting in that army—citizens all of a united kingdom of the Serbs, Croats and Slovenes, the national trinity of the Southern Slav race.

They found their country in a terrible condition. There were no roads; the population which came out to meet them was in rags; there was no fire; roofs had been taken off of the houses, floors had been torn up, even windowsills and doorsills had been burned by the enemy. The trees had been cut down in their cemeteries; and in certain sections in an effort to prove that the population was other than Serbian, the very names had been erased from the tombstones. But what did it matter? That for which the Slav peoples had toiled and died throughout a thousand years of conscious history had been accomplished—their complete freedom and union. I, an adopted daughter, have lived this Gethsemane of a people—this apotheosis of a nation—as a Serbian woman; my heart beating with the wonder and the glory of the sacrifice.

Now that this great inspiring gift of freedom and union has come to my adopted people, if we in Yugo-Slavia may look forward to a century of union and development of our material, ethical, and moral forces, and to the assimilation of whatever foreign elements there may be within our borders, the decisions of our peoples to rule themselves cannot but aid to promote the peace of the world. The rights of self-determination cannot apply to a single town, or one side of a street; certain minorities must remain even after the wisest alignment of frontiers. Unhappily one cannot ask for the freedom of all the Yugo-Slavs: there are Serbs, Croats and Slovenes who must be content with other citizenship, although they have racial rights to be a part of this wonderful Yugo-Slavia.

The broad lines of the Slav nationality with its open-minded religious tolerance offers guarantees to religious liberty: the Orthodox faith under the Patriarch of Constantinople is very like that of our own Episcopal Church. Among the Catholics of Croatia and Slovenia there exists a feeling of brotherhood towards the other religions of their nationality, as shown by the fact that many dignitaries of the Catholic Church in those states helped loyally to lead the movement for freedom. In no country in the world does the Jew have greater opportunity and honor than he has in Serbia and than he will have in the whole of the new Yugo-Slav kingdom if he proves himself as good a citizen there as he is in Serbia. For the Turk I have seen proofs of tolerance in the efforts to preserve Mosques, and Moslem schools, ordered by our Crown Prince. After the war of 1912 every assistance was given to Turkish women from Macedonia who wanted to go to Turkey to look for their husbands if living or for their bodies if dead.

In my travels about Macedonia I have remarked the just treatment of the Serbian authorities towards the other nationalities, Greeks, Turks, Albanians, and Bulgars, and have discussed with them the fact that it is perfectly possible for people of different strains of blood to live together under the same flag and same government, if equal rights of citizenship are accorded to all their citizens. I believe firmly that we, the Slavs—if aided by America in this difficult hour of our transition when we suffer physically and mentally from the ravages of war—will be able to construct quickly a United States of the Balkans, and that before many years we may yet hold that Educational Peace Conference at Vienna which was interrupted by the Austrian ultimatum.

# An Experiment in Progressive Government

## The Czechoslovak Republic

By Hon. Charles Pergler

Commissioner of the Czechoslovak Republic in the United States

IN the Declaration of Independence of the Czechoslovak Republic by its then provisional government, issued on October 18, 1918, we find the following statements:

> Our democracy shall rest on universal suffrage. Women shall be placed on equal footing with men politically, socially and culturally. The rights of the minority shall be safeguarded by proportional representation; national minorities shall enjoy equal rights. The government shall be parliamentary in form and shall recognize the principles of the initiative and referendum. The standing army will be replaced by militia. . . . . The Czechoslovak Nation will carry out far-reaching social and economic reforms; the large estates will be redeemed for home colonization; patents of nobility will be abolished. . . . . Our nation will assume its part of the Austro-Hungarian pre-war public debt; the debts for this war we leave to those who incurred them. . . . In its foreign policy the Czechoslovak Nation will accept its full share of responsibility in the reorganization of eastern Europe. It accepts fully the democratic and social principle of nationalism and subscribes to the doctrine that all covenants and treaties shall be entered into openly and frankly without secret diplomacy. . . . . Our constitution shall provide an efficient, rational and just government, which will exclude all special privileges and prohibit class legislation.

This quotation is in itself a program, and at the same time it succinctly states the problems and tasks with which the new Czechoslovak Republic is confronted. These problems are not dissimilar to those found in the other new states formed as a result of the defeat of the Central Empires: Poland and Jugo-Slavia, as well as in united Rumania. In approaching these questions the American public must remember that the situation in Europe differs fundamentally from that prevailing in America. One can defend very plausibly the individualistic school of political economy, and equally so—if not with even more plausibility—what may properly be called the coöperative school of thought. But the most beautiful theories frequently collide with hard facts, and it is hard facts with which European statesmen must deal. They must satisfy, first of all, the demand of their peoples for decent livelihood. It is only too obvious that to permit matters to drift as the extreme individualist so frequently demands would be worse than suicidal. When we think of the density of population in western and mid-Europe, and the comparative sparsity of population in the United States, we realize in a moment how fundamentally the situation differs, and how fundamentally different the approach to solution of social questions and problems of social reform inevitably must be.

An indication of how thoroughly democratic the new Republic is, is found in the fact that one of the very first acts of the National Assembly was the abolition of all patents of nobility. Thus the new nation, through its duly authorized representatives, with one stroke gave earnest of its intention to do away with everything savoring of medievalism.

## THE LAND QUESTION

Of the economic and social problems one of the most important confronting the new state was that of the large landed estates. You will remember that hesitation to deal with this question was perhaps the fundamental reason why the Russian provisional government was wrecked, and why bolshevism gained the upper hand. Czechoslovak statesmen do not propose to be caught unawares in this fashion. The estates in most cases are those held by alien nobility and the late imperial house. More often than not they came into the hands of these various clans during the carpet-bagging period of the Thirty Years War, when Bohemia was plundered right and left by the Hapsburgs and their retainers. On April 16th the National Assembly adopted a law expropriating all large estates exceeding 150 hectares[1] of land under cultivation, or that can be cultivated, and 100 hectares of woodland. Under this law the state will take over 1,300,000 hectares of cultivated land, and 3,000,000 hectares of woodland, which will furnish livelihood to 430,000 families. In the case of estates of the imperial family, estates illegally acquired, and estates of persons who during the war had been guilty of treason against the Czechoslovak nation, no compensation will be paid. There will be compensation to all those who have not legally forfeited their right to it, or whose possession was not based upon robbery, theft or fraud.

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[1] A hectare is a measure of area containing ten thousand square metres, or 2.471 acres.

### THE LABOR QUESTION

Immediately following the abolition of all patents of nobility and the making private citizens of various princes, dukes and counts, the National Assembly passed a law establishing the eight-hour day. According to latest advices, the National Assembly is about to pass legislation aimed at doing away with unemployment and, in so far as this may not be possible, to alleviate the condition of the unemployed. No doubt ultimately this legislation will include some sort of a scheme of insurance against unemployment, against sickness and accident, and similar features of what is known in Europe as social legislation. The establishment of workingmen's chambers is being contemplated. This should not be confused with soviet institutions. In Europe chambers of commerce and similar institutions have a legal status, and logically, if there can be chambers of commerce, there is no reason why there should not be workingmen's chambers, which will be the legally authorized representatives and spokesmen of the workingmen, even as the chambers of commerce speak for the manufacturer and the merchant. In the meantime, the government is undertaking emergency public works to reduce the number of unemployed and it has appropriated millions of crowns for these works, particularly in the City of Prague.

Radical as certain features of this legislation may appear to some Americans, considering European standards and the advanced standing of the labor movement in particular, as well as its tremendous influence, it is simply what the times call for, if violent upheavals are to be avoided. After all, we must remember that the laws of social development were not suspended on the day we were born, and that history is also a record of transition from one order to another. The problem for the statesman and the sound thinker is to seek an orderly way, one which can be pursued with the minimum of suffering to society as a whole, and to the individuals composing it. The art of real statesmanship may be said to consist in bringing about new social formations without violence and without bloodshed. This, so far, the Czechoslovak Republic has accomplished. It seems to have taken a leaf out of the book of Anglo-Saxon history, as exemplified both in Great Britain and the United States, the most marked feature of which is the fact that in most cases fundamental changes in government and society were accomplished peacefully.

Certainly the methods adopted by the Czechoslovaks are diametrically opposed to bolshevism. The latter, if it has come to stand for anything, means revolutionary changes by violence, by civil war. It stands for the dictatorship of the proletariat, and for the soviet system of government. There is not a trace of that in the measures I have enumerated. On the contrary, everything is being done in an orderly and legal way; by the parliamentary methods so well known to western democracies and to the United States.

## THE ARMY

Czechoslovak statesmen will be careful to prevent anything resembling militarism from striking roots in the Republic. The Czechoslovak army still standing in Siberia is very democratic, as is inevitable from its origin, having been organized voluntarily by the men themselves for the purpose of fighting for the independence of their native land, and against German, Magyar and Prussian militarism. President Masaryk himself is squarely opposed to militarism which means rule by an army clique, and the subordination of civic ideals to those of the military martinet. In a recent public speech in Prague, the President declared that the new nation must have a democratic army based upon free and voluntary discipline and convinced of its mission to defend the country against external enemies. This democratic army will be solely for purposes of defense. Naturally it will be governed by the exigencies of the international situation, and by the fact whether or not an international organization can be achieved which will do away entirely with the necessity of any armies except for purely police purposes.

## WOMAN SUFFRAGE

Woman suffrage is already an accomplished fact in the Republic. Even now eight members of the National Assembly are women, among them Dr. Alice Masaryk, daughter of the president, well known in America. During the war, she was held by the Austrian authorities in jail for a period of nine months.

## PRESIDENTIAL POWERS

Under European constitutional practice the power of the president is usually meagre indeed. It seems likely, however, that the Czechoslovak state will somewhat follow American examples. Thus, in accordance with a recent recommendation of the Constitutional Committee of the National Assembly, the president shall have the right to name and dismiss cabinet ministers, negotiate and ratify international agreements and treaties; shall be present and preside at the meetings of the Council of Ministers, having also the right to make recommendations to the National Assembly in matters of state. This does not mean that parliamentary control will be done away with, and that the president will have anything like autocratic powers. But it does mean that he is to possess a larger freedom of movement and more initiative than a European president usually has.

## GERMAN POPULATION

In mid-Europe no state can be created without certain national minorities, and this is a troublesome problem indeed. There is going to be in the Czechoslovak Republic a minority of Germans, not nearly so large as the Germans themselves claim, but still a minority. This fact entitles us to all the sympathy the world can give us, especially when we bear in mind that this is a German minority. This minority is entitled to fair treatment. The Czechoslovak delegation at the Peace Conference, in outlining our claims, declared that the New republic will guarantee to national minorities full freedom of development and cultivation of racial individuality. Dr. Charles Kramar, the Prime Minister of the Czechoslovak Republic, in a speech delivered to the National Assembly in Prague on December 20th, 1918, said that complete cultural, social and economic freedom will be granted to Bohemian Germans. Dr. Kramar said:

> We do not want to be oppressors. We do not want to follow the former German policy in Austria, as we have seen what it leads to. The Germans in Bohemia, with their great economic strength, are shrewd enough calculators not to have any particular desire to be incorporated into Germany. For the Czechoslovak Republic the whole world is open. Germany, on the contrary, will be in the worse imaginable position. Even if there were no direct economic boycott, the indirect moral boycott will be far more terrible.

The Czech Social Democrats of Bohemia are certainly not jingoes, and their chief organ, the *Pravo Lidu*, on December 7, 1918, in writing on the question of the German minority, said:

> The present German possession in Bohemia is not the result of natural development, but of terror and oppression. In the natural development and a free course, the German possessions in the north of Bohemia would assume quite another aspect. In spite of the terror and oppression and so-called assimilation, we can prove that German Bohemia does not exist, as this territory is everywhere mixed with the Czech population, which in many places forms, as a matter of fact, majorities. According to reliable estimates, there were in 1910 in the district of Most, in northern Bohemia, which the Germans claim, over 40,000 Czechs; in Litvinow, over 30,000; in Duchov, over 35,000; in Bilinia, about 30,000; in Teplice over 20,000, etc. Since 1910 the development was in favor of the Czechs, so that it may be safely assumed that in many places the Czech minorities have now become majorities.

As regards the attitude of the Germans in Bohemia themselves, it is interesting to quote the German paper *Prager Tagblatt* of December 23, 1918:

> Masaryk claims the integrity of Bohemia, but he wants to assure the German minorities not only equal rights, but also full rights of nationalities. This is a new idea. If a really democratic autonomy is introduced, we shall have no reason to complain.

## THE NATIONAL POLICY

In any event, because the Germans and Magyars oppressed the Czechoslovaks, it does not follow that the latter will oppress the former. It is a significant fact that during the whole of the nineteenth century not a single Czech statesman appeared who in any way advocated the oppression of other peoples. On the contrary the Czechs always emphasized the fact that they would accord their German citizens complete civil rights which, of course, includes cultural rights. It was the great Czech historian and statesman, Palacky, who said that we never had, nor ever shall have the intention of oppressing other people; that, true to our character, rejecting all desire for the revenge of past wrongs, we extend our right hand to all our neighbors who are prepared to recognize the equality of all nations without regard to their size or political power. And it was Havlicek, the Czech leader in 1848, who said that oppression never brings good results, and in time brings vengeance upon the heads of its own originators.

The new Czechoslovak Republic is the greatest experiment in really liberal and progressive government ever undertaken on the European Continent, and it is entitled to the sympathy and aid of the great American democracy.

# Reconstruction Among the Small Nations of Middle Europe

By STEPHEN P. DUGGAN, PH.D.
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THE French Revolution gave birth to two political principles—the principle of nationality and the principle of democracy. As long as the French revolutionary armies remained true to those two political principles, wherever they went throughout Europe they were received with acclaim and enthusiasm, but when they repudiated those two political principles they were rejected by the peoples of Europe. They did repudiate them when the Revolution fell under the control of Napoleon Bonaparte, and from a democratic revolution it was transformed into an autocratic imperialism. Bonaparte was destroyed because the peoples of Europe insisted upon the validity of the very principle to which the French Revolution had given birth, namely, the principle of nationality. It was the aroused national spirit of Spain, Germany, Russia and England that overthrew the greatest military autocrat of his day.

### THE CONGRESS OF VIENNA

When the Congress of Vienna was held in 1815, one would have supposed that the statesmen and the kings, who had assembled there and who had called upon their peoples to rise against the foreign usurper, would have remembered the strength of the revolutionary principle and would have made their territorial readjustments conform to it. Unfortunately they did not. At that Congress two political principles fought for supremacy—the dynastic and the nationalistic—and the dynastic won out in every conflict. The territorial readjustments made then were made without any consideration of the principle of nationality. Peoples that were opposed to each other were united in one state, and peoples that formed one nation were divided among several states. The Dutch, who were Teutonic in origin, Protestant in religion and commercial in their economy, were compelled to form a single state with the Belgians who were Romance in race, Catholic in faith and agrarian in their economy. In other words, two peoples that disliked each other were compelled to live in one state. On the other hand, Poles and Italians forming one nation were divided among several states. The result was that the history of Europe from the treaty of Vienna down to the present day has been the story of attempts on the part of the various peoples and nationalities to tear up that treaty and any other treaty that has since been made which did not conform to the principle of nationality.

### THE CONGRESS OF BERLIN

In Western Europe by 1870 that principle had won out everywhere, and Western Europe, thereafter, was made up of national states. But although Western Europe by 1870 had realized the principle of nationality, that was not true of Eastern Europe. It would seem as if statesmen would never learn by experience. The Congress of Berlin of 1878, which assembled to readjust Eastern Europe after the Russo-Turkish war, paid as little attention and as little respect to the principle of nationality as those who had assembled at Vienna in 1815. No statesman had ever less reason to return to his capital and to speak of having brought back "peace with honor" than Disraeli, because few treaties of peace were more dishonorable than the peace of Berlin of 1878. The principle of nationality was violated in every respect. Bosnia and Herzegovina, inhabited exclusively by Serbs, was given over to Austria; Bessarabia, largely inhabited by Roumanians, was torn from Roumania and given to Russia; and Macedonia, inhabited by Bulgars, Serbs and Greeks, was given back to the mercy of the Turk. The result has been that since 1878 the determination of the peoples of Eastern and Southeastern Europe has been to tear up that treaty and to attempt to do what had been done in Western Europe—realize the principle of nationality. The first principle, therefore, upon which the reconstruction of Middle Europe must rest is that nationality must be the basis of territorial readjustment. It must be recognized that if on any great scale the people of one nation are placed within the borders of another nation, they will never rest content as long as there is a chance to break the peace and attain to national unity.

## THE EVOLUTION OF SMALL STATES

You read in your history books that political evolution has been towards the formation of big states. That is not true. During the past century two great states of Europe have attained national unity—Germany and Italy. But, on the other hand, during that same period Belgium gained its independence in 1815, as did Serbia about the same time. Furthermore, in 1829 Greece became independent, followed, in 1856, by Roumania, and in 1878 by Bulgaria. Finally, in 1905, Norway, that had been united to Sweden by the treaty of Vienna, declared its independence. Now we have another group of small nations that have arisen in Central Europe—Finland, Poland, Czechoslovakia. Political evolution has been really towards the development and the constitution of small nations, not large nations.

In 1914, Europe was organized politically as follows: In Western Europe there was a series of uni-national states, states made up of one nation. England, Spain, France, Germany, and Italy, are all one-nation states. Eastern Europe on the contrary was made up entirely of one great pluri-nation—the Russian Empire, including within its borders many nations. Right down through Middle Europe from Cape North in Lapland to Cape Mattapan at the end of Greece was a series of small nations and suppressed nationalities—Swedes, Norwegians, Danes, Finns, Poles, Bohemians, Hungarians, Serbs, Greeks and Bulgars. This Middle Europe, made up of these small nations, became the danger zone of Europe.

There are two reasons why this situation in Middle Europe endangered the peace of the world.

## SUPPRESSION OF THE PRINCIPLE OF NATIONALITY

First because everywhere throughout that region the principle of nationality was violated. Poles and Finns in Russia were allowed no national rights and few rights of citizens. Poles in Germany were not privileged to speak their language in public; their newspapers were suppressed; they were not allowed to send their children to school where Polish was taught; they were not allowed to attend church where the service was in Polish; they were not allowed to form Polish unions to study Polish culture. All this was partly or wholly true of the Czechs in Austria, the

Slovaks in Hungary, and, of course, still more true of the suppressed peoples of the Ottoman Empire. Not only were there suppressed nationalities throughout Middle Europe, but nowhere did nationalities correspond with territorial boundaries. There were more Serbs outside of Serbia than inside of Serbia, and the Serbs outside of Serbia wanted to be inside of Serbia, and the Serbs inside of Serbia wanted them. Under the existing conditions they could not realize their nationality, but they were determined that sometime they would do so. That was the condition of unstable political equilibrium throughout the whole of Middle Europe. It was an invitation to war. Arbitration would not have settled it. You cannot arbitrate a condition where part of a nation outside of its boundaries want to be inside of them. The only settlement is to let them go inside.

### AGGRESSION BY THE BIG NATIONS

The second reason why Middle Europe was the danger zone of Europe was that the very weakness of these small nations was an invitation to aggression. When the war broke out Sweden was pro-German. Why? Because she lived in fear and terror of Russia. Denmark was anti-German because she lived in fear and terror of Germany. Little Serbia was land-locked and without access to the sea and had practically but one market, Austria-Hungary. Austria-Hungary attempted to bring her to her knees over and over again by strangling her economically, by raising tariff duties on her products to such an extent that she would starve. The very weakness of these little nations was an invitation to aggression on the part of the big nations.

### PROTECTION OF THE SMALL NATIONS

What is the second principle, therefore, for a sound reconstitution of Europe and of the world? It is to understand that in the new world reorganization or even in the new European reorganization, the majority of nations are going to be small nations and must be protected in their rights and in their needs. Now what are their rights and their needs? It would take a long time to go into a thorough discussion of them, but there are a few that are self-evident. Some of these nations of Middle Europe, like Czechoslovakia and Poland and Hungary are absolutely land-locked. They have no seacoast. They have no access to the sea, and in this industrial era if there is not free access to the sea for a state it means the death of that state. How are they to get it? They cannot get it by their own might. Czechoslovakia, to take an illustration, is an industrial nation. It has made remarkable advances in the last generation industrially. It paid much beyond its proportionate share of the taxes of Austria before the war. It will starve if it cannot get the raw materials from beyond the seas that are necessary for its industries. Any nation will starve under those conditions. The electrical industries today contribute enormously to our necessities and conveniences and comforts. Electrical industries are dependent particularly upon two raw materials, rubber and copper. Rubber is localized in Central Africa and Central South America. Copper is localized in only a few places in the world and none in Czechoslovakia. If she is to continue her industrial life she must have the opportunity to bring freely from over the seas raw materials, and she must have free access to the coast to send her products across the seas to other countries. She must have the right to send those goods to the seaboard over railroads going through other countries, with the knowledge that she will not be charged preferential freight rates or be interfered with by tariff duties of any kind. Not only must these land-locked states of Middle Europe have access to the sea, but they must have the free use of ports. Anyone who is familiar with the port rules knows how easy it is to put obstacles in the way of ships that are loading and unloading—to give preferences to the ships of one state over another. At Danzig, which is the outlet for Poland, and at Fiume, which is the outlet for the Jugoslavs, the Magyars and the Bohemians, there must exist what was agreed to at the end of the second Balkan War in regard to Saloniki. There part of the port itself was given over to the Serbs so that they could have their own docks and warehouses and also a spur of the railroad going down to those docks and warehouses. Their products then could be loaded upon the ships coming from abroad at those docks without interference on the part of any other people.

There are other needs of these people which I cannot take up now. I shall just touch on the third principle that is at the basis of a sound reconstruction of Middle Europe, namely, the political principle of confederation. During the war the three Scandinavian countries, Norway, Sweden and Denmark, formed an informal kind of confederation which will probably continue for some time. If with that Scandinavian confederation in the North there were a Danubian confederation to the South there would probably be a greater feeling of security in Central Europe. If there were added to this a Balkan confederation reconstituted to be what it was in 1912, the prospects for continued peace in Southeastern Europe would be very much brighter than they ever have been in the past, and there is very little reason why this should not take place. Once the boundary lines are settled at Paris, and this abnormal period of turmoil and national resentment is over, in all probability, the peoples of the Balkans will settle down to the normal life that existed before the great war. The need of mutual help in the form of unions for tariff and other economic purposes will make itself so felt that in all probability a political confederation will follow.

### THE LEAGUE OF NATIONS

Nevertheless, although so much benefit would accrue to Middle Europe by the principle of confederation being realized, I do not believe that we can expect peace and stability and security to exist there without a greater confederation being formed—the League of Nations. The great states, the great powers, have been able always to command respect for their rights in the past. They have insisted upon them as inherent in their moral personality. Just as in municipal life, a man is equal before the law because he is a man, without reference to his being wealthy or intelligent, poor or ignorant, so today we shall expect under a league of nations that all nations, the little as well as the great, will have their moral personality observed. The realization of greater international coöperation is the only hope for the little nations, the small peoples, not only of Middle Europe, but of the earth.

# A Danubian Confederation of the Future

### By V. R. Savić

Former Head of the Press Bureau in the Serbian Foreign Office; Author of *South Eastern Europe*

WAR has always strongly impressed the imagination of man. It has inspired poets, seers and thinkers. But of all inspirations by the war, the most appealing to me are those that are a negation of the war,—thus, in the final inspiration in the Mahabarata, the great Indian war poem, when the old King Dritirastra in a vision saw all the warriors that fell on the fatal battlefield of Kukureshtra rising from the Ganges, friends and foes reconciled, all resplendent in youth and glory.

Technically we are still at war and all men of good-will are thinking how to get out of war, how to make peace, not a temporary one, but a lasting peace based upon solid foundation.

Two great aggressive empires, Russia and Austria-Hungary, have passed away and upon their ruins, new states have sprung up, full of life, with new interests and a new outlook. The Balkans, that is what the politicians used to call the Balkans, have disappeared also. Only Bulgaria will remain a purely Balkan state. All other Balkan nations will have their future interests mainly outside the confines of the Balkan peninsula. Greece will extend to Asia Minor and look for the penetration of those vast territories which for some time were the dependencies of Helenic civilization and later on were the stronghold of Byzantium. Serbia and Montenegro have ceased as independent states and have merged themselves into a larger national commonwealth of Jugoslavia, now officially called the kingdom of the Serbs, Croats and Slovenes. With its territories on the left banks of the Rivers Save and Danube, that kingdom has extended beyond the Balkan peninsula, and, with its Alpine provinces, it belongs now to central Europe. Rumania also has altogether ceased to be a Balkan state, having annexed Bessarabia and Transylvania. Constantinople and the Straits surely will pass under an international control, and Albania will be tutored by a power or a league of powers from outside the Balkans. Moreover, the former

Balkan states, Rumania and Serbia, having nothing more to fear from Austria-Hungary, will turn to the north where instead of enemies they will find friends and natural allies in Czecho-Slovakia and Magyaria, the Magyar national state. Both these states, like Rumania and Serbia, must be creations of the Peace Conference at Versailles.

Since men or nations cannot be treated independently from their environments, it is necessary to draw attention to one strong feature of those countries. The fact should be emphasized that the Balkan peninsula, unlike the two other great European peninsulas, the Apenine and the Pyrenean, is not a geographical entity separated from the rest of the continent by a high and well marked chain of mountains. The Balkans are geographically an integral part of central Europe. The greatest European river, the Danube, is a common life-artery for all those countries. All the Bosnian and Serbian valleys open to the north and central Europe. This geographical fact may serve as an additional explanation of the causes of the present war and as a suggestion of what ought to be a sound policy of the new states of that part of Europe.

At the present moment the dominating desire of all those peoples is the achievement of complete national independence. The nations of southeastern Europe are longing for freedom, as freedom has been so long denied to them. Without the satisfaction of that demand no step forward can be made in the reconstruction of that stormy corner of Europe. We assume here that that demand will be fully satisfied, as Czecho-Slovakia and Jugoslavia base their aspirations upon victory achieved as well as upon the fourteen points of President Wilson.

There are many reasons, historic, national and economic which prompt the Czecho-Slovaks, the Jugoslavs and the Rumanians to remain good allies in the future and work out a scheme for close coöperation. The Jugoslavs and the Rumanians have lived as neighbors for more than a thousand years, but their history has never chronicled a conflict between them. They had the same sources of civilization, the Greek Christianity; they had the same enemies, the Bulgars, Magyars and the Turks. They shared the same destiny, being for centuries under the Turkish yoke, and were suffering from Magyar oligarchy. Together they shook off

Turkish rule and together in a world conflict they have now achieved the freedom and the unity of their race. All their past and present points to their mutual understanding in the future, as their interests nowhere clash.

The same is true of the Czecho-Slovaks. They and the Jugoslavs are of the same Slavic origin. Their languages even today represent a strong bond of unity. The Slovak dialect of the Czech tongue is so near to the Serbo-Croatian language that there is a dispute among the scientists whether the Slovak idiom should be classified into the group of the Jugoslav or into that of the Western Slav languages, to which belong the Czech, the Polish and certain other idioms. They also have drawn upon the same sources of civilization. In the tenth century the Slav apostles, Cyril and Methodius, translated the Gospels from the Greek into the Jugoslav language as was spoken in Macedonia. They went preaching the Gospel and strengthening Christianity among the Bulgarians, Jugoslavs and Czecho-Slovaks. Therefore, they are equally venerated by each one of those peoples. By the invasion of the Magyars, in the ninth century, the Czecho-Slovaks and Jugoslavs became separated territorially. Nevertheless, the bond of friendship and cultural ties never ceased to exist between them.

The similarity of their history is so great that one is rather tempted to look at it as a history of one and the same nation, forcibly separated into two physical parts, but whose inner life by a miracle remained the same. The Magyars subjugated the Slovaks in the north as well as the Croats in the south, whereas Bohemia and Serbia, as the main parts of their respective nations continued their independence and attained a remarkable degree of prosperity and civilization in the Middle Ages. The Turkish invasion worked upon them very similarly. After a prolonged struggle, Serbia succumbed to the Turks. Bohemia, fearing Turkish menace, in order to avoid the fate of Serbia, allied herself with Austria. But the result proved the same. The bad faith of the German dynasty of Hapsburg was an evil equal to the sword of Janissaries. Bohemia lost her independence and during long centuries, like Serbia, sank into misery and oblivion.

But there was a fire smouldering beneath the ashes. In the nineteenth century, after the great commotion created by the French Revolution and the Napoleonic wars, the national life of both the Jugoslavs and Czecho-Slovaks was revived in literature and at the same time the nucleus of the present Jugoslavia was created in an autonomous Serbia out of the Turkish Vilayet of Belgrade. Since that time they both have progressed apace and in the same lines. The Czechs helped every national movement among the Jugoslavs and the latter always sided with the Czechs in their common struggle against the Germans and the Magyars. When, in 1848, the Germans of Bohemia took part in the Pan-German Congress at Frankfort, the Czechs proclaimed the solidarity of the Slavs by summoning a Pan-Slav Congress at Prague where the centuries old friendship between the Czecho-Slavs and Jugoslavs was strongly manifested and fortified by new coöperation. When in 1866 Austria became Austria-Hungary, the Czecho-Slovaks and the Jugoslavs met one and the same fate. To them were denied the rights of ancient, independent states. Both of them were cunningly divided in Austria and Hungary and their national resources were recklessly exploited for the promotion of schemes directly opposed to their national welfare. The last war was a culmination of long endured iniquities. Their masters exacted from them the heaviest sacrifices in order to make their chains stronger. Both of them, the Czecho-Slovaks and the Jugoslavs, were compelled to fight German battles. They both resisted that plan admirably. There has been no written treaty of alliance between them, but it is difficult to find any other instance in history of a closer coöperation and a more perfect confidence between two nations. Their policy sprang up simultaneously, dictated by the masses of the people whose heart felt instantaneously the whole meaning of the last world struggle. President T. Masaryk once said to me at London:

> My policy was clearly revealed to me by the action of the Czecho-Slovak soldiers who, without awaiting upon any concert of their leaders, surrendered to the Allies in Serbia and Russia and immediately formed their own regiments to fight the central Empires. The same was done by the Jugoslavs. We, their leaders, had nothing to do but to follow and explain that policy to the Allies.

The same was done at home. Their recognized leaders were imprisoned, sentenced and executed by brutal masters. But in spite of everything their resistance grew and the mysterious coöperation among their national masses became closer with every day as war dragged on. Their deputies in the Vienna Parliament proceeded with common accord. They denounced boldly the policy of the Central Empires. They preached and organized open revolt, which brought about the collapse of Austria-Hungary from within as much as it was due to the pressure from without. The Peace Conference will do justice to their bravery, and the brotherhood of arms between the Czecho-Slovaks and the Jugoslavs will be consecrated by a solemn international action by which both will be admitted into the society of nations as free, independent members.

They were true allies in the past; they are now; and they will continue to be in the future. There are ties stronger than any written treaty. The fear of a new German invasion by armed or by economic ways will dictate to them an agreement for the defense of their political and economic freedom. As in politics, so in economics they are mutually interdependent. Czecho-Slovakia can hardly find a better market for her manufactured goods than Jugoslavia. The latter being an agricultural country will have in Czecho-Slovakia, the nearest customer for her raw products. The Czechs will be the first to be interested in the development of the great natural resources of Jugoslavia.

With some difference of details, the same can be said for the past and future relations between Rumania and Czecho-Slovakia. Through the latter, Rumania and Jugoslavia can reach most easily northern and western Europe. Through Rumania, both of the others can be brought in contact with the rich countries on the shores of the Black Sea. Jugoslavia offers to Rumania and Czecho-Slovakia her fine Adriatic ports and Salonica which opens for them the wealth of the Indies and the East. As there was nothing dividing them in the past, so there is everything pointing to their coöperation in the future.

But all three of them, Jugoslavia, Rumania and Czecho-Slovakia, will stumble over Magyaria. The Magyars are a deep wedge, and for centuries were a stumbling block for the coöperation of nations in that part of Europe. Like a whirlwind from Asia they overran Russia and the Carpathians and settled down on the fertile plains on the banks of the Danube and the Tissa. Being a military organized camp, like all Mongolian tribes, they conquered easily the rather meek Slavic tribes and pushed them north into the mountains and beyond large rivers in the south.

After a thousand years of their European home, the Magyars have kept very much of their fiery, ardent, self-assertive Asiatic character. Through centuries the initial principle of their life—lust for conquest and sheer denial of any rights to their opponents—has manifested itself repeatedly. They conquered the Slavs, but they could never subdue them entirely. Weak as aggressors, the Slavs are very strong in their passive resistance. In the mountains, in the marshy plains, they kept their character and their faith, and after every apparent defeat, they came back stronger.

The thousand years of their past history, culminating in the struggle just ended, should have brought home a great lesson to each of them. The Slavs ought to recognize frankly the fact that the Magyars cannot be dislodged from their position. The Magyars should give up the eternal game of dominating the Slavs. Let them meet on a basis of equality and confidence. Let them consider their future relations in the light of the great modern principle, that no nation can live in itself, for itself and by itself. The old principle of exclusion and competition is to be replaced by the new one of trust and coöperation.

When the crust of old prejudices falls from their eyes, they will see how much of their past has been an awful misunderstanding, how, instead of irreconcilable antagonists, they are the most natural allies. The Magyars will see how their exclusiveness and self-assertion brought only misery to themselves and to their Slav neighbors. The Magyars' denial of Slav freedom undermined the real basis of their own liberty. In order to subjugate Slavs, they became slaves themselves and the overseers of German slaves. They will remember that the brightest and greatest phase of Magyar history was the time of King Mathius Corvinus, a sincere friend and ally of the Slavs. Never since has Magyar national genius shone so brightly as when it was coöperating with its Slav neighbors.

The Germans who invented and spread the teaching about an imaginary Slav danger, whilst preparing the conquest of the world for themselves, poured the poison into the Magyar ears that they were a super-race destined to rule. Of course the Germans gave them only the empty shell and kept the meat for themselves. What has been the result? The Magyar's professions of liberty degenerated into a cynic oppression of non-Magyar races and an uncontested rule of Magyar junkers over Magyar masses. The fertile plain of Alföld saw with every day an increase of emigration of the Magyar peasantry overburdened by a medieval economic system and political corruption of the crudest form. The Magyar "super-race" after a very short and brilliant period of national literature and art during the struggle for independence of 1848, produced nothing that could win an international recognition Their art and literature became a pale reflex of the cheap products of German mind of the last fifty years. Their only international "success" was the regilding of their aristocratic coat-of-arms by marriage with eccentric dollar princesses. Whereas the Magyar spiritual life sank to stale mediocrities, the oppressed Slavs exerted themselves vigorously in art, science and literature. The Czecho-Slovaks gave to the world a Dvořak, a Smetana, a Vrhlicki, a Masaryk. The power of the Jugoslav genius was revealed by the beauty of their national poetry and of their music and won the most honorable place in science through Tesla and Pupin, and in the plastic art through Meštrović, now unanimously recognized as the leading sculptor of the world.

If those people of southeastern Europe were to follow the teachings of Berlin, of Vienna or of Budapest they would in the good old way dismember Hungary and boast that this Mongolian dragon has been smashed and disposed of once and for all. And I should not say that such tendencies do not exist. The Balkan nations have for so long a time been tutored by Vienna and Budapest, that they cannot easily rid themselves of the ways of their former masters. But it would not be the Balkanization of the central Europe, it would be Vienneizing or Budapestizing it.

Fifty years ago, Count Andrássy returned from the Congress of Berlin to Budapest where he was treated like a great conqueror and far-sighted statesman. In the Hungarian Parliament and the fashionable clubs of Budapest, before gentlemen with diamond studs in their white shirts, he said boastfully that he was able to obtain for Austria-Hungary, not only the occupation of Bosnia but also the military administration of the Sanjak of Novi-Bazar. "Thus gentlemen," Count Andrássy boasted, "the Slav hydra has been smashed, the union of Serbia and Montenegro has been prevented, and the Magyars control the road to Salonica."

Life sometimes reserves strange surprises and revenges. The would-be victorious Magyars were every day losing ground on that very field that only counts in the long run, the field of spiritual and moral achievements. Whereas the subjugated Slavs with every year made a new conquest on the way of true freedom and greatness. Thus the whole teaching of their history is giving them a serious warning on the threshold of a new era that is to dawn on Europe as a price of so much bravery and suffering. The sooner they bury the hatchet of past feuds the better for themselves and humanity. In order to enter the new life of promises the Magyars must be cured of the ridiculous pretension of a super-race which happily never was the religion of Magyar masses. At the bottom of Magyaro-Slavs relations, in spite of German insinuations and fatal misunderstandings, there remained always a feeling of respect and admiration. The plastic, elusive, imaginative Slav soul was a match to the ardent, fiery, somehow sombre Magyar mind. Temperamentally, they complement each other and if fused in a happy partnership can produce great and lasting things. The Slavs believe in their mission, but that mission never was that which the Germans taught about the Pan-Slavism. The Slavs believe in reconciliation and not in opposition. Against the German ideal of violence and pride, they set up their ideal of love and Christian humility. It consists not in compelling other nations to accept their outlook on life, but in sympathy for other nations' ideals.

The Slavs and the Magyars can enter the new life with old prejudices, petty jealousies, mean bickerings and eternal friction; or they can make their common life vaster, more beautiful and nobler through sincere reconciliation and coöperation. The Slavs do recognize the value of the Magyars; they are a desirable partner, but they must not be pressed into that partnership, they must be attracted. We may hope that the Magyars are ready for the change of attitude. The junkerism which heaped only misery and reproaches upon the Magyars is now defeated. Some of the Magyars could already see upon the Slav banners, the slogan "for our and your liberty." The Magyar democracy must feel friendly towards such instinctively democratic people as the Slavs. The self-evidence of so many common interests between them will do the rest.

The Magyar government headed by Count Karolyi made a vain and very belated plea that the geographical frontiers of Hungary should be preserved, that the Magyars were ready to grant the complete national autonomy to Serbs, Slovaks and Rumanians comprised in those boundaries. The Peace Conference cannot and should not respond to it. This plea and offer are a survival of the old pre-war Magyar idealogy. The nationalities of Hungary already possess their autonomy of will, and intend to settle their political status according to their own interests and aspirations. The Magyars have nothing to grant them. The nations of southeastern Europe demand above everything freedom and unity. No economic, geographical or strategical considerations can stand in the way of that. The future coöperation of those nations can be attained only through freedom and in freedom. The Magyars must recognize and reconcile themselves to these facts if they desire to enjoy the advantages of a coöperation.

The most necessary and desirable factors for coöperation with the Magyars are at hand. Not one of those nations is powerful enough to menace the independence of another. Czecho-Slovakia with strong German minorities will number about twelve millions; Magyaria with strong German and other minorities about ten millions; Jugoslavia about twelve millions and Rumania about twelve millions. Not one of these countries is economically self-sufficient. But united in a loose political and a strong economic confederation, they will command natural resources greater than any other European country. Rumania possesses oil wells and salt mines, the richest in Europe. Jugoslavia has an abundance of coal, copper, iron, and together with Bohemia is one of the wealthiest mining countries of the world. Jugoslavia, as well as the Carpathian mountains, has an abundance of forests and their timber industries will come next to Russia. Rumanian, Magyar and Jugoslav plains are the richest granaries of Europe. The vineyards of Hungary and Jugoslavia are equal to the best French vineyards. Jugoslavia enjoys the finest climate for fruit growing and cattle raising; Hungary for horse breeding. Czecho-Slovakia already possesses many industries. The skill and organizing capacities of the Czechs stand among the first in Europe.

A Danubian confederation represented by such gifted nations as Latins, Slavs and Magyars, could evolve a civilization whose brilliancy might easily surpass anything attained until now in Europe. Materially and geographically it could be envied by many other countries. In variety and beauty of its scenery, in the richness of its soil, in the extent of its frontiers for the increase of population, in the navigability of its rivers, in the safety, size and beauty of its seaports—that confederation would be better provided than any other European country. Its geographical position which, heretofore, presented many disadvantages, such as being on a high road connecting East and West and open to all invasions and conquests, should in the new era of peace be turned to greatest advantage.

The Danube in connecting all these countries offers not only the cheapest route for an internal exchange of goods, but opens to them the access to the rich countries around and beyond the Black Sea. The Adriatic ports give them the access to the civilized West. Moreover, nature has provided through the Balkans the nearest and easiest access to Salonica. That port, the largest and safest in the Mediterranean, is the key of the fabulous riches of the East. The Ægean Sea is connected now by a railway line with Prague, Budapest, Belgrade, Skoplje and Salonica, but could be reached also by a navigable water way which was under consideration before the last war. The Danube is navigable and so are many of its tributaries in Czecho-Slovakia, Hungary and Jugoslavia. But its navigation presents some difficulties at the Iron Gates and at Sulina. Those difficulties can, however, be avoided and the way to Salonica considerably shortened by a canal to be built from Smederevo in Serbia using the courses of the Morava and the Vardar rivers. Now there is no watershed between the Morava and the Vardar. The waters from a plateau near Kumanovo in Serbia run indifferently to the Danube or to the Vardar which empties in the Gulf of Salonica. The water way from Brunn in Bohemia or from Budapest or from Belgrade to Smyrna or to the Suez Canal or to any port of the Mediterranean can be made shorter by 600 nautical miles than the existing way along the Danube and through the Straits. The Hungarian government before the war had under consideration a costly and difficult scheme to connect Fiume with the River Save by a canal. It would require costly boring of a mountain range which would be superfluous if the project of a cheaper canal to Salonica were to be executed. That water way can be easily prolonged by a system of rivers and canals to the Baltic. Thus from Danzig, the Vistula is navigable all through Russian Poland. Further up, the Vistula can be canalized and connected with the River March in Czecho-Slovakia which empties in the Danube near Pressburg. From there the Danube carries us to Smederevo, then the Morava and the Vardar through Serbia will bring us to Salonica. This navigable water way all through the countries independent of Germany would offer to all Baltic countries a sure water way to Suez shorter by 2,000 miles than the route now existing all around Europe. This water way would only emphasize the political and economic importance of a Danubian confederation.

The readers can see that such a confederation is not a beautiful dream of dreamers, but a practical and a most advantageous solution of future problems in southeastern Europe. It must not and cannot be realized by force but by enlightenment and free will of all the peoples concerned. For the present moment the whole question hinges upon the attitude of the Magyars after the signing of the world peace. It can be put thus: Will they continue to be a wedge or will they become a link between the neighboring nations?

What will be the policy of those nations depends upon what will be their philosophy, since the policy of a nation is the practical application of its philosophy. The Danubian peoples, in fact all the nations of Europe, are in need of a new philosophy. They look to America for this. Is there something ironically tragic in this looking? Will, or can America seize this opportunity to become the teacher for the nations of a philosophy of reconciliation and contentment?

# Russia—Present and Future

By R. M. STORY, PH.D.[1]

International Committee of Young Mens' Christian Associations.

RUSSIA is reaping the whirlwind. For generations her autocrats and bureaucrats, her priests and teachers, her professional men and merchant princes have sowed the wind. Clothed with responsibilities, endowed with power, and faced with opportunities such as rarely fall to the lot of any leaders, they stupidly chose to dig a pit of selfishness. Blinded with their own conceits they overreached themselves, and plunged down headlong dragging their people with them. In all the hellish misery of the present hour in Russia, one hears from their lips no word of contrition and no plea for forgiveness. The Almighty may have mercy upon them, but in Russia they are already numbered among the damned.

## CZARISM AND BOLSHEVISM

Bolshevism is the whirlwind; it is the offspring of czarism, but not more hideous either in principle or in method. Conceived in utter selfishness and in basest materialism it carries within its own bosom the seeds of its destruction. Like the parent tyranny from which it sprang, it is without conscience and without a god. "We are frankly anti-Christian," announced the head of the Bolshevik Bureau of Social Welfare to a representative of the Y. M. C. A.; to which the faith of a Christian replies, "Then you will fail."

Czarism has passed away; it was not truly Russian either in its spirit or in its working. It was founded on the sand; under the storm and flood of war it fell, and great has been the fall of it. Bolshevism, its child, also builds on the sands of class-rule, hatred, strife, jealousy and selfishness. It mocks international obligations and revels in intrigue. With audacious impertinence it seeks to override existing democracies and voices its claim to world dominion. One cannot imagine the consummation of its program, even in Russia. Any social structure which is to endure in Russia, must be founded upon the enduring rock of good in the character and the past experience of the Russian people.

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## THE RUSSIAN CHARACTER

One who has been through the agony of the past two years with Russians can realize how deep are the strata of love, forgiveness, patience and meekness; how universal the common sense and humor; how strong the mental fibre; how glowing the desire for knowledge; how wonderful the already developed capacity for coöperative effort; how rich the simple culture; how reverent and noble and genuine the religious life of this great people. No lust of conquest or imperial ambitions motivate them. The average Russian believes in the golden rule as a practical proposition. His fine idealism and rugged good sense will ultimately turn to confusion the counsel both of hypocritical bourgeoisie and demagogic bolshevist. It is in the faith that neither of these pretenders to authoritative speech voices the real mind and will of Russia, that one can view her present plight without despair or even trepidation, and look to her future with confidence and assurance.

One is not unmindful of the present woes and horrors which have overtaken this long-suffering people. Would that it were possible to blot from memory some of the unutterable infamies which have been perpetrated by both sides in this terrible civil war! Only too well known are the embittered ruthlessness and calculated terrors of the bolshevist program, both in its conception and in its execution. These men had good teachers. On the other hand are the arrogant, swaggering, imperialistic militarists, the record of whose deeds will make even the Prussian jealous when the scalpel of history bares it to the world. And what shall one say of those who follow in their wake, the soulless, vulturous creatures, who from their emigré havens outside of Russia have been calling upon the world to rescue their prey for them! Neither side in the Russian civil war has a monopoly of coup d'etats, Chinese mercenaries and Machiavellian principles and methods. The great majority of the Russian people quite wisely prefer to endure stoically the pains of the present rather than cast in their lot with either of the principal groups aspiring for power, for neither group knows what it is to respect public opinion, to have regard for ordered liberty, to love international morality, or to recognize the principles and practices of democracy. It is quite easy, entertaining and popular to paint the lurid and the outrageous. One may indulge in this pastime exclusively, may remain wholly faithful to the facts in every instance related, and with the mass of accumulated evidence may continue such portrayal almost indefinitely. Yet such a portrayal would not truly represent normal conditions in Russia today. As in the case of *Uncle Tom's Cabin*, granted that every detail related could be substantiated, yet the aggregate impression conveyed is wrong. The dislocation in life, industry and transport is severe. The sufferings endured are often intense, but there is no such uninterrupted carnival of blood and crime, no such wallow of corruption, as the more picturesque reports would have one believe. There is less of disorder and suffering in bolshevik Russia, and less of stability in non-bolshevik Russia, than is generally indicated. Allowing for the effects of the war, the masses of the Russian people know little more of oppression today than they have known in generations past. Large sections of the country are comparatively quiet. The impairment of former conditions of life has not come quickly. The disruption of normal life began in 1914, and affairs have grown progressively worse from then till now. Individual and social adjustments have to some extent kept pace with misfortune and there has been no sudden or overwhelming collapse. The nearest approach to it followed the demobilization of the army. The only explanations for Russia's survival of that supreme test are found in prohibition, the average man's good sense, the faithfulness of the railway employes, and the wide distribution of the shock.

## THE EFFECT OF THE EUROPEAN WAR

I entered Russia before the bolshevik revolution. The country had been three years at war. It had already been gutted as by fire. Vast areas had been swept over by the contending forces. Man-power, industry, financial stability and transport had been sacrificed to the terrible demands of the struggle with Germany. Twenty million men had been mobilized for the armies, and the armies had suffered nine million casualties including prisoners. Agriculture, the principal industry, had suffered no less than manufacture. Roubles were selling for five cents in Vladivostok, and you can buy them no cheaper today. Bank credits were grossly over extended through war loans and speculative activities. The vice-president of the Zemsky Soiuz informed me in November, 1917, that the productive capacity of his organization—a fair example—in the Moscow district had fallen from 40 to 60 per cent during the preceding year. Trains were running from three days to a week late on the Trans-Siberian. The morale of the army was gone, and many competent observers, British, French, Belgian, and Czech soldiers, who had been fighting with the army, testify that there was little chance for the restoration of that morale after the disasters in the fall of 1916.

Russia was already prostrate when swept by the revolution. She was prostrate not only because of the corrupt and incapable leadership to which her destinies had been committed; not only because of her military defeats and economic insufficiency; but prostrate because her masses in their ignorance did not comprehend the significance of the conflict. If Russia was already prostrate in 1917, what has transpired since then may be viewed in the nature of a misdirected protest; a protest which aggravates rather than betters the misfortunes against which it is directed, but which can be greatly overestimated in its importance.

The person who fastens his attention upon the disasters of the war, or gives way to undue concern regarding bolshevism or attaches his hopes to the success of the Siberian, North Russian and other ostensible champions of constitutional government, will certainly fail in any just approximation of the future of Russia. These may all affect, but they will not determine, that future. There is so much bolshevism in anti-bolshevik Russia and so much anti-bolshevism in bolshevik Russia that the fate of the momentous issues at stake in Russia cannot possibly be decided by mere changes in battle lines or even by the rise and fall of temporary antagonists for power. The situation is far more baffling in its complexities; far more astounding in its contradictions; and far less susceptible of analysis or even intelligent observation than the majority of foreigners, who have been there, like to admit. The wise student of Russia's future will rather seek to ascertain and study the great underlying currents of Russian life and thought. He will seek out the fundamental and substantial elements of former social organization and practice and the individual virtues that are universally recognized as significant in the lives and destinies of peoples who seek to be free.

## THE FUTURE

The fundamental present facts which in my opinion have permanent bearing on Russia's future are:

1. Russia is rich in her natural resources, so wondrously rich that the average American literally has no conception of the tremendous possibilities of the great Slavic domain. Natural resources of this character are vital. Upon them national life may draw for its recuperation, if the will and the determination to recover are present. It is, therefore, to the characteristics of the Russian people and to their social institutions that one must address himself if he is to know whether Russia *will* recover.

2. The true Russian spirit is tolerant, democratic, spontaneous and unspoiled, if one may judge by the soldiers and the peasants. Wanting much in self-discipline and the spirit of compromise yet they knew not arrogance nor false pride, nor was there in them any servility; they were free men. One of them in the rapture of his freedom expressed it thus, "I have known what it is to be free. To have had one day of the revolution is better than all my previous existence."

3. The Russian temper is radical in its attitude toward political, social and economic problems. It is definitely intended that the old order shall not continue in the new nation which the people aspire to build. For example, in all of my travels in Russia, I did not meet with a single Russian who wished to see American social and economic civilization reproduced in his country. It is upon the vision of a better social order that the bolshevist régime has built up its power, but no one who knows the radicalism of the average Russian can for a moment believe that his conception of the better social order will permanently admit of the substitution of a new tyranny in place of the old.

Moreover, if Russia appears radical from our point of view, we should bear in mind that she may not be so radical from her own standpoint. Private property has never enjoyed the recognition in Russia which it has in America and in western Europe. If in the working out of their social vision, the Russian people choose to modify still further the recognition which it has heretofore had, it will be but the confirmation of a tendency long since established.

4. Russia is rich in social experience as well as in natural resources, democratic in spirit and radical in temper. In his bitter struggle for a better world, the peasant has learned the value of coöperative enterprise. The coöperative buying, selling and banking organizations of Russia and Siberia are among the great institutions developed in former years. Except in a very limited sense, these great coöperatives have restricted themselves to buying and selling and banking, but it will be surprising indeed if the economic rehabilitation of Russia in manufacturing and mining does not come about through the application of the coöperative principles already well established. I see no other method of economic readjustment that is in keeping with the social views of the masses and the practical problems involved.

5. The Russian people are poor in education. Yet I have never been any other place where the intellectual hunger is as keen and insatiable as it is in Russia. To think that this desire for knowledge has been the object of much of the repression and oppression which the Russian people have undergone! One of the great and crying needs of Russia today, one which all substantial elements of the population seem unanimous in their desire to realize, is education. Sad as it is to witness the levelling down of the institutions of higher learning in Russia, it is but a part of the retribution which has swept in upon the privileged classes. The Universities of Moscow and Petrograd and similar institutions may have been demoted from their high calling, but they are being definitely related to the most immediate and pressing educational needs of the Russian people.

6. Russia has genuine unity, cultural, political, economic, and religious. After admitting the present potency of the separatist and disruptive forces which are at work, one must still face the great underlying unity of culture. A common medium of speech and a universal body of literature, song, art and custom continue. These create a desire for political unity. Many Lithuanians, Ukrainians Siberians and even Poles have privately recognized

the ultimate necessity of a federal union of the component parts of what was formerly the Russian empire. A separatist movement in Siberia in 1918 received no substantial support. The economic interests of the various sections of the old empire are already knit together in a fashion so plain and substantial that the separatist tendencies which are present have before them an exceedingly difficult struggle if they are to prevail. The cultural, political and economic unity is reinforced by a spiritual unity which obtains throughout Great Russia, Ukraine and Siberia, and which has planted its roots deeply in the furthermost corners of the old empire. It is a force—manifested chiefly in the Orthodox church—which is under a cloud today, but which is potent in its capacity for future influence upon the destinies of Russia. Finally there is geographical unity. As I travelled over Russia and Siberia, I was frequently reminded of the Honorable James Bryce's dictum in regard to our own Mississippi Valley—it was meant to be the home of one people. The geographical unity has been emphasized by a remarkable system of river, railway and canal transportation, which strengthens at every point the other elements of unity. I cannot believe that the forces of unity and integration have been more than temporarily suspended by the conditions which now obtain.

7. In its governmental institutions, one must bear in mind that Russia has had a minimum of political experience with democracy; that it is without trusted political leaders, without tried and proven popular institutions of government and without the stabilizing influence of political traditions.

It is not altogether clear to me that the village mir or the Zemstvos or the Duma, either municipal or national, are to endure. It is very doubtful if they command popular confidence and support. My own impressions are that they do not now do so. The soviet, on the other hand, has gathered around it the loyalty and enthusiasm of the revolutionary movement, and has the honor of having saved the social and economic character of the revolutionary movement. It has innumerable defects. But its constitution is still in the formative state and is undergoing rapid modifications. The great importance of the soviet lies in the fact that it is the only political institution in which the Russian people seem to have confidence. The average Russian peasant, or the workingman, has little trust or interest even in a Constituent Assembly; he will tell you his fear that though he were in a majority he could not control it because of his political inexperience. In the soviet, on the other hand, he believes he can ultimately make his point and maintain it. He will admit that it may be perverted and often has been, but will deny that such perversion can be long or continuously maintained. In this confidence which the masses of the population have in the soviet and in its own capacity for rapid change and development lie the possibilities of its future. My impression is that it must be reckoned with in any consideration of the future of Russia.

In conclusion, let me suggest a few of the things which it seems to me we may confidently expect to come out of Russia's present struggle.

1. The rehabilitation of the Russian state on some federative basis, which will include the Balkan provinces, the Ukraine, the Caucasus, and Siberia, but will almost certainly exclude Poland and Finland.

2. The application of state ownership and control to transportation, education, certain banking and financial functions, and welfare work.

3. A coöperative rural and industrial economy, based upon past experiences and prevailing ideals.

4. Considerable latitude for private initiative and corporate activity. The field for such developments, however, will be limited as compared with what today exists in the United States.

5. The definite abandonment of militaristic and imperialistic programs of the past and of the wild radicalism of the present; a wholehearted committal to international peace, to the intensive development of the native character, culture, institutions and resources.

6. There are yet many long years of civil war and strife ahead of Russia. It will not be surprising if revolution follows revolution, so wide spread is the unrest, so inadequate the leadership, and so poor are the facilities for effective expression of public opinion Yet, despite this unhappy prospect, one who has been in Russia and has come to know her people can hardly doubt her future. If it is impossible to explain Russia, if it is beyond us even to understand and comprehend her, one can yet have faith in

her. And it is a remarkable fact that those of my associates who have known Russia longest trust her most.

For Americans who have such faith, there is open the privilege of an unselfish and sympathetic assistance to a people who need help and who welcome and appreciate it when rendered. There can be no sure method of helping Russia that is not founded on the law of love and mutual respect. The soul of the new Russia will spurn any other.

# The Russian Tragedy

### By W. C. Huntington

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PHYSICALLY, Russia covers over one-seventh of the surface of the earth, but in thought present-day Russia has come to cover the whole world. The Russian problem is fundamental and elemental, and its roots are deep struck and in all directions in our modern life.

The Russia of today is not interesting chiefly because of its art or quaint customs, its embroidery or church music, but because it is a seismograph of political and social movements, on whose dial in great sweeps of the needle can be observed indications of what are still only faint rumblings in other places. Again, Russia is a social laboratory in which vivisection is practiced with a vengeance. Russia is offering up a vicarious sacrifice for the benefit and instruction of us all, and we can hardly stand by coldly or without sympathy and see this sacrifice made.

It is very difficult for the American here at home to encompass the Russian problem. It is so huge and so new that more time is needed to get the full perspective. Russia has not been a popular subject in the past, and most students lack the absolutely essential background to consider the subject. Newspaper accounts have been fragmentary, which is by no means to say that all newspaper accounts, as is frequently stated, are untruthful. As an eyewitness, I can say that, in spite of error and exaggeration, the general tenor of these accounts, which picture the conditions in Russia as very bad, is correct.

Of the Americans who were in Russia before and during the revolutionary period, most were idealists and well-wishers of the country; few, however, had the necessary equipment to study a situation where political and social phenomena have taken place at such rapid speed; and there have been, therefore, many inaccurate observers and, worse still, false teachers. So much of the discussion about Russia is not about Russia at all, but about political and social fundamentals, which the Russian situation has brought to light, between people who differ beyond the possibility of compromise in their political and social conceptions, and each of whom hopes to see in Russia the vindication of his view. The constructive purpose of this paper is to try to discover some logic in all the tangle of ideas and give you, if possible, foundation and materials for your own further study and thinking.

In doing this, I assume that I am writing as a student for students and as a liberal for liberals. By liberals I mean those who have an open mind, a profound consciousness of their social obligation and a sense of values too profound to permit them to cast lightly away the old until the new has been tested. With such an equipment one can attack the Russian problem. I cannot forbear to say, as one who cherishes an affection for Russia, that she needs friends, and especially American friends. She needs sentiment of the best kind, but she does not need sentimentalism. The appeal of Russia is of such dimensions that it approximates a religious experience. However, there are varieties of religious experience, and emotionalism is not the best variety. Many well intentioned people, or adventurous people, seem to feel that when they approach the Russian problem they abandon all their former standards. This is an absolute mistake. Russia is not an exception in human nature; rather the Russian people are the most profoundly and intensely human that I have ever seen.

Now Russia is a tragedy, and America and the Anglo-Saxon world a comedy. We play the game to win, but to be beaten before you start has been the perspective that has faced Russians for centuries. This vein runs through all their literature. As an instance, recently a conference class in English literature at the University of Toronto was discussing Matthew Arnold's definition of poetry, in which he said it must be pleasing (doubtless in form and style). A Russian girl student in that class rose excitedly and said, "That definition is untrue. Poetry is literature, literature depicts life, and life is not pleasing."

From the economist's viewpoint, Russia is a natural tragedy, because of three great factors: (a) Its isolation from the rest of Europe, (b) its vastness and unprotectedness against Asiatic raids, (c) its harsh climate. It is impossible to discuss the present and future of Russia without knowing something of the past.

The three factors of the natural tragedy enumerated above finally brought about the consummation of the autocracy three hundred years ago. The people accepted this autocracy because they preferred it to anarchy and famine. Presently to that autocracy was added serfdom—analogous to the slavery of our colored people of the South—which lasted until the year of 1861, the year of our own Civil war. By serfdom nine-tenths of the population were bound to the land on which they were born, to be bought and sold with it.

## THE TWO GREAT CLASSES

The great result of all this was to divide the Russian people into two classes, an upper one-tenth and a submerged nine-tenths, with a chasm between. Again from the economist's point of view, education and, hence production, were so backward in Russia that there was simply not enough produced to maintain much more than one-tenth on the scale of living which we have come to demand as normal. The upper tenth was composed primarily of the city dwellers, nobility, bureaucrats, professional classes, industrials and merchants. These look toward Western Europe; they often speak several languages. I have known cases amongst the wealthy where the children spoke French better than Russian; they are versatile, attractive, but as a class unsound, because out of touch with the main body of their own people. I venture to say that, generally speaking, no class of people in a country is ever superior to or can separate itself from the accomplishment of the country as a whole without hurting itself; and the quasi-mediæval conditions in Russia, persisting because of the backwardness of the country, had an unfortunate effect on the upper classes. The lower nine-tenths was composed of peasants in the country and their relatives who had come into the city to work in the factories. They were living for the most part as did the peasants in Western Europe two hundred years ago, undernourished and 90 per cent illiterate.

The spectacle of the profound difference between the two great classes, of the backwardness which prevailed among the nine-tenths, and the tyranny which held the whole structure together, was the tragedy of Russia. This tragedy has produced the passive Christian virtues in which the Russians excel—pity, generosity, tolerance, human kindness, as well as a feeling that many have of living in eternity, that, since this life is not worth very much, they must turn to the prospect of another. But the tragedy has also produced the fundamental Russian faults: inertia and lack of initiative and decision.

### THE INTELLIGENTZIA

Autocracy, using the bureaucracy as an instrument of government and excluding even most of the upper one-tenth from participating in it, has not given the people an opportunity to train in democracy, and has helped to bring about radicalism, which is the dominant note in Russian political life and will remain so until the harsh economic situation is improved. From the tragedy sprang also the "intelligentzia"—a portion of the upper one-tenth, profoundly conscious of their social obligation and trying to bridge the gap between the upper one-tenth and the lower nine-tenths. The faults of this class are well known. Circumstances made of them theorists, because they were denied opportunity for constructive efforts and participation in political life. They also suffered from the mentality of protest, the mentality which grows so accustomed to fighting certain evils that it has no plans for the time when these evils shall have been removed. Nevertheless, the intelligentzia has contained some of the noblest souls and most heroic strugglers for liberty of all time.

### THE RUSSIAN PEASANT

As an offshoot of radical thought in Russia, it was most natural that socialism should be imported from Western Europe and that the labor movement of Russia should be under the socialist flag. Of course, political activity in Russia is always more or less on the edges and goes quite over the heads of the great mass of the people, who are the least known and the hardest to encompass, that is, the great mass of the peasantry. It is impossible to get a clear expression of opinion on political questions from the amorphous mass, because of its inaccessibility, due to insufficient communication, and because of its illiteracy and the limitations of its life experience. The Russian peasant is fundamentally of sound white stock and is bound to have a tremendous development. The war has had a great effect on him, but still he is essentially a shrewd man with a very narrow horizon. The Russian peasant is an elemental man, with a character fundamentally good and kind, but like all such men, he can be aroused to passion by preaching and agitating, and in that passion he can strike and be tremendously cruel; and he has been.

## THE MARCH REVOLUTION

In June of 1916 I arrived in Russia. I saw the manufacturing capacity of the country—never very large—concentrated on war production. I saw transportation—never sufficient, even before it had an army of millions of men to supply—overloaded. There was corruption in high places; there had been disaster at the front. The burden of war, while it drew out so many noble sacrifices from all classes of people, was, nevertheless, breaking down Russia's insufficient economic apparatus and intensifying political and social disturbances. With ample supplies of food in the south of Russia, hunger came to Petrograd and to Moscow because the food was not transported. Finally, with the flower of the professional army gone, just this hunger produced riots in Petrograd and pulled the hair trigger on the loaded gun; and the revolution of March was on.

On January 14, 1917, all the ambassadors in Petrograd and their staffs were presented to the Emperor at the New Year's reception at the Tsarskoe Selo. Two months afterward that same Emperor had abdicated for himself and his son, the Grand Duke Mikhail had refused to take the throne without a mandate from the Constituent Assembly, and the line of the executive authority was broken for the first time in three hundred years. The struggle for democracy was on.

## THE PROVISIONAL GOVERNMENT AND THE SOVIET

Then we ran through those memorable eight months, the eight months of effort at democracy, of conflict between the provisional government and the soviet. When the Romanov dynasty was cut off, the Duma, which was Russia's only parliament, formed a committee. This committee attempted to take affairs in hand and, in accord with the soviet of workmen's and soldiers' deputies, appointed the provisional government of Russia, of which Prince Lvov was the Premier and in which Alexander Kerensky, who later rose to fame, sat as Minister of Justice.

"Soviet" is merely the Russian word for "council," and the soviet was a labor organization, primarily formed in the cities and only afterwards extended to the peasants, for the reason that the latter are more inaccessible and not politically conscious, as has been explained above. The soviet is not an old institution in Russia, but had its birth in the revolution of 1905, when soviets of workmen were formed in all the chief cities. In the revolution of 1917 it also took in soldiers, a large part of whom were, of course, peasants, and finally it took in the peasants, who for a time had their own soviet. The soviet was socialistic, not bolshevistic, the Bolsheviki sitting in it as a small minority party, very active. The soviet organization did not aspire to govern, fearing to make a botch of government in such a crisis and discredit the cause of socialism. They sought to influence the provisional government, which was composed of *bourgeois*, i.e., not working people, with the exception of Kerensky, who was a member of the soviet. The leaders of the soviet were not rough workmen, but educated people, who had espoused the workmen's cause.

The chasm between the upper one-tenth and the lower nine-tenths immediately became evident between the provisional government and the soviet. This latter organization, in which there were so many restless spirits, desired to realize all manner of ideals instantly. There was no compromise, no team-work, because no one had ever been trained in democracy, and there was a very tremendous economic and military crisis which would have taxed the powers of any government to meet. Besides all this there was the constant work of the German spies, with which the country was filled, and of the bolshevist group using German money. This produced in eight months the downfall of the effort toward democracy in Russia.

## BOLSHEVISM—ITS MEANING, METHODS, AND FAILURE

In November came the bolshevik coup d'etat. *Bolshe* in Russian means "more"; *bolshevik* means a "maximalist," a man who stands for the maximum of a program, not the majority of the people, according to some misrepresentations. *Menshe* means "less," and the Mensheviki are the minimalists in the socialist movement. The Bolsheviki, whose chief spokesman is Lenin, have always taken the stand of the whole-hogger. In theory, bolshevism is crude Marxian socialism by violence. Many of my Marxian friends deny this. The Berne Conference, by a large majority, repudiated bolshevism, but if you concede that they do in any degree strive toward socialist doctrines, then the great thing that distinguishes them from all other socialists is not their creed but their method, which is as old as the world. It is the method of 'the end justifies the means," of personal opportunism, of absolute unscrupulousness. What they do is in the name, of course, of a great boon to be conferred on mankind. They are, like the Germans, wonderfully clever at using the basest side of human nature; they seem to know how to play on the meaner motives, such as cupidity. Lately the bolshevik propaganda organization in New York City, under the guise of commercial operations, has been offering American business men a bait of $200,000,000 in gold. It was surprising the serious attention which this perfectly absurd, from a business point of view, organization received.

It is the philosophy of "the end justifies the means," the philosophy of class warfare and of the terror, with which democracy can never compromise. Our conflict with bolshevism is as fundamental as was our conflict with Germany. Karl Radek, writing in a bolshevist newspaper recently, made the issue plain, stating that now that the conflict between Wilson and the Kaiser was solved by the defeat of the latter, the struggle was on between Wilson and Lenin. The philosophy of "the end justifies the means" made it possible for the bolsheviks, although opposed to imperial Germany, to accept the tainted money of the Germans, and for the Germans to give the bolsheviks this money, although detesting them and their movement.

The theory of the Bolsheviki calls for the class war, and they remain in government by the exercise of the terror. The chief characteristic of this terror is not its physical side, which is merely Russian bestial nature let loose, but the fact that official proclamations prescribe it and justify it. In America the sanctity of the home is held very high, and stories of the nationalization of women in Russia have attracted disproportionate attention. Such nationalization seems to have taken place in a number of localities, but never upon the instructions of the central bolshevik government. What is more important to me is that Chicherin, the bolshevik Commissary of Foreign Affairs, told one of my friends in Stockholm that the church and the home stood in the way of the progress of modern society and must be swept aside.

Terrible as the methods of the Bolsheviki have been, they might perhaps be condoned had they obtained for the proletariat, whose name they use so often, the benefits which they promised. They have not. Russia is today a desert place. The cities of Petrograd and Moscow are prison places. It is not that the streets flow daily with blood—executions take place at night or in quiet districts—but it is the deadly weight of oppression that weighs on everything, the total lack of production and of activity. Today the Russian proletariat are not behind this movement, because they are hungry and out of a job and have no freedom. The peasants are not behind it, because they have seen that taking the land by violence has made no just distribution and has brought them strife. There is class warfare even in the villages between rich and poor peasants—and the rich peasant would seem very poor to you. Bolshevism is immoral in theory and an utter failure in economic practice. The time is approaching rapidly when this group will pass, and America should aid every constructive Russian force which is contributing to this end. The reconstruction of Russia is particularly America's job; and there is no country which affords a greater field for the efforts of the spirit of service than Russia. No country draws on one so much. It is not sufficient to lend money or goods, but we shall have to lend ourselves, because there are too few brains per square mile. The Russian and the American character are very congenial.

# The Menace of Bolshevism

By Baron Rosen

Former Ambassador of Russia to the United States

IT is needless for me to expatiate on the horrors of the bolshevist régime in Russia. Since the publication of the official reports of American and British representatives in Russia, the absolute truthfulness of which cannot be questioned for a moment, no fair-minded person may entertain any doubt whatever as to the reality of these horrors. And now we have an explanation from the lips of Lenin himself of the aims and policies pursued by the bolshevist tyrants of Russia. An extremely interesting report of this interview with Lenin will be found in the files of the *New York Times* for April 23rd. The report concludes as follows:

> Some of his remarks are sufficiently frank and illustrative of the sinister form of moral insanity, which distinguishes the bolshevist mind, to be a terrible warning to Western Europe.

I might mention that I happen to have in my possession a letter just received from a most distinguished English statesman, an old friend and colleague of mine, who writes:

> We have learned enough to know what Bolshevism is and by what detestable methods its sanguinary sway is maintained. Nevertheless, there are persons, not a few, who refuse to believe in the truth of the abominable crimes which continue to be committed by the Bolsheviks, and extend some sympathy to them merely because they profess to be the "friends of the proletariat," being really "hostes humani generis." This is one of the things which make one feel as if the world had gone mad.

The Russian Information Bureau in New York published in the last issue of its paper *Struggling Russia* a most eloquent "Appeal to Humanity" from the pen of the famous writer Leonid Andreeff, who paints a picture of the appalling sufferings of the Russian people and especially of the unfortunate people still left alive in the doomed capital of what was once the empire of Russia, a picture such as would profoundly move the heart of even the most callous cynic. An introductory remark of the editor expresses the hope that the so-called "parlor bolsheviks" will read it and will understand "the crime they are committing in going about and speaking of the régime of murder in Russia as a new and higher form of democracy."

The formidable problem of bolshevism cannot be light heartedly passed by with similar shallow definitions. If one goes to the bottom of things, bolshevism is but the outbreak in a particularly virulent form of that old, chronic and incurable disease, with which civilized mankind is and probably always will remain afflicted—the everlasting strife between those who "have" and those who "have not." Incurable, because there is not and there never can be a sufficiency of the good things of this world to go round and, therefore, their enjoyment will always be limited to a small minority, whereas the thirst for such enjoyment among the great majority will constantly grow, as the contrast between the luxury and the ease of the few and the want and the limitations of the many becomes ever greater and more glaring. Discontent with the narrow limitations of a life condemned to incessant toil, joyless monotony and anxious insecurity, such as always will be the lot of the great majority of mankind, envy of the more fortunate and consequent class hatred—these are the seeds of the disease. They were and they are present everywhere. All that was needed to make them bear fruit—and that fruit was bolshevism—was the short-sighted policy of the ruling classes of the leading nations of the world. The wasting of untold billions of the people's wealth on gigantic armaments and finally on a fratricidal war of mutual extermination, instead of devoting, say only a tenth part of the colossal treasure thus wasted to the bettering of the lot and the lightening of the burden of the toiling masses. Such was the policy that produced and always will produce bolshevism and anarchy.

It was the suicidal feud between the ruling classes of the leading nations that created the opportunity for bolshevism to raise its head. The problem of how to deal with it stares us in the face now—not Russia alone, nor Germany, but the whole civilized world. One thing is certain: the problem of bolshevism can be solved only by all civilized mankind acting in concert to put it down. The ruling classes of all nations are a minority, but they have a sacred duty to perform; not towards themselves, which would only be acting in self-defence, but towards their peoples. The triumph of bolshevism would mean the utter ruin not only

# Democracy and Bolshevism

By A. J. Sack

Director of the Russian Information Bureau in the United States

THE Russian problem became the central European problem, and the central world problem, not a year ago, not two years ago, not since the revolution of March, 1917. The Russian problem has been the central European and the central world problem for several decades.

Let us go back to the revolution in 1905, the first open revolt of the people against the Czar's rule. If you will recall the events of the revolution of 1905–1906, you will recall also that there were moments in this revolution when it seemed that victory would rest with the people. In October, 1905, the Czar had to grant a constitution. In April, 1906, when the first Duma presented the Czar with an address demanding liberal reforms, the structure of the old régime was tottering. Do you realize what happened to the entire world at the moment when the Russian people, the democracy of Russia, was defeated by the Czar's government in 1906?

If you will recall the German literature, the military writings and even the general press, before 1914, you will find that the plan openly discussed by the German press was, in case of war, to crush France first and then turn to the East to meet the Russian armies. The German logic was that since the Czar's government was so unpopular in Russia, the population would not answer the Czar's call for mobilization, and that very probably a declaration of war would throw all Russia into the flames of a revolution. Consequently the Germans would have time enough to rush to Paris, to defeat France, and then turn to the Eastern front and snap up Russia, all in revolutionary flames. It is probable that, had the revolution in 1905 been successful, then nine years later, in 1914, Russia as a nation would have been so strongly united, and the alliance of a democratic Russia with the democracies of France and England would have been so natural that the German militarists and imperialists would not even have thought of starting the European slaughter. That means that in 1906, when the Russian revolution was defeated, at that very moment a death sentence was signed for the children of thirteen to fifteen who were then innocently playing in the streets of Europe and of America.

The fate, therefore, of Europe and almost of the entire world depended on the events of the first revolution in Russia. It is time to understand that during the last half century the cultural, the commercial, the technical and the financial bonds between civilized peoples have grown so strong that the nations of the world have, in reality, become one body and one soul, and when there is an infection in one part of the body the entire body is in danger. The establishment of a stable, democratic government in Russia is a necessity for the entire world, and therefore the world cannot afford to remain indifferent to the political developments in Russia.

The March revolution brought into existence Prince Lvov's and then Kerensky's Cabinet. Events in Russia during the past two years are in the main a death-grapple between the Socialists, who held the majority in the provisional government, and the Bolsheviki. There is a difference between socialism and bolshevism, and this difference must be thoroughly understood by every liberal-minded person. Socialism means governmental control over production and distribution; and the great teacher of scientific socialism, Karl Marx, was at the same time the great teacher of the law of evolution. All of us would like to jump from this modern life with its unpleasantness, direct to paradise. But a perfect state is possible—if possible at all—only after centuries of development, and the great teacher of scientific socialism, Karl Marx, understood this better than anyone else. Believing in socialism, believing that governmental control over production and distribution would open a new era in the life of society, Karl Marx taught that socialism is possible only after capitalistic development. The historic mission of capitalism, according to Karl Marx, is the development through private competition of the productive forces of society. Only after the productive forces are developed and wealth is concentrated practically in the hands of a few can the democratic state enter and substitute governmental control for the control of private interests. The Socialists of Russia, the Social-Democrats and Socialists-Revolutionists as well, understood the prosaic law of evolution. The difference between the Socialists and the Bolsheviki is plain. While the Socialists of Russia, most of them, are responsible leaders, the Bolsheviki are demagogues. In the fall of 1917 the Bolsheviki came to power because they gave the suffering masses of the Russian people promises which they have never been able to fulfil. At the moment of the bolshevist revolt, in November, 1917, there was over 8,000,000 casualties in the Russian army, with about 3,000,000 dead and about 1,000,000 disabled for life. Only an industrially developed country is able to wage a modern war, and you cannot imagine what it meant for poorly developed Russia to wage war against Germany, Austria-Hungary and Turkey during the three years. The Russian masses were anxious for peace. Not for a separate peace with the German imperialists but, if possible, for a general democratic peace. The responsible leaders, the provisional government, frankly stated to the masses of the Russian people that such a peace could not be obtained at that moment; that although bleeding and suffering, Russia must continue the war together with her Allies until German militarism was broken. Irresponsible bolshevist demagogues approached the masses with promises of immediate democratic peace, and more than this—of immediate realization of socialism in Russia. With the help of the German militaristic machinery they overthrew the provisional government and, after coming to power, brought to the people, instead of a general democratic peace, a shameful, separate peace with the German imperialists; instead of bread and happiness and immediate realization of socialism, a régime of starvation, destruction, murder in those parts of Russia where bolshevism rules.

The Bolsheviki are camouflaging their régime with the terms "socialism," and "democracy." In truth their régime is a caricature of these two great ideals. No one who knows the nature of socialism will ever consider the Bolsheviki as Socialists, and no one who knows the nature of democracy will consider the Bolsheviki as democrats. The Bolsheviki do not recognize the fundamental principle of democracy—the right of every member of society, men and women, to participate in the government. According to the so-called soviet constitution there are entire classes of the population which are excluded from the government.

And I wish to call attention to the fact that this soviet constitution, undemocratic as it is, is still better than the practical application of this constitution to Russian life. The Bolsheviki have excluded from the government not only entire classes of the Russian population, but they have excluded all the political parties which are opposed to their régime, the Liberals, the Constitutional-Democratic party, the Social-Democrats, the Mensheviki and the Socialists-Revolutionists.

To conclude this brief sketch of the characteristics of the bolshevist régime and its relation to the ideas of socialism and democracy, I shall quote now a document which, in my opinion, is one of the most important documents describing the conditions in Bolshevist Russia. It is the text of a telegram sent by the British High Commissioner, Mr. Bruce Lockhart, to the British Foreign Office on November 10, 1918, as published in the official *British White Book on Bolshevism.* Mr. Lockhart telegraphed:

> The following points may interest Mr. Balfour:
>
> 1. The Bolsheviki have established a rule of force and oppression unequalled in the history of any autocracy.
>
> 2. Themselves the fiercest upholders of the right of free speech, they have suppressed, since coming into power, every newspaper which does not approve their policy. In this respect the socialist press has suffered most of all. Even the papers of the Internationalist Mensheviki, like Martov's, have been suppressed and closed down, and the unfortunate editors thrown into prison or forced to flee for their lives.
>
> 3. The right of holding public meetings has been abolished. The vote has been taken away from everyone except the workmen in the factories and the poorer servants, and even amongst the workmen those who dare to vote against the Bolsheviki are marked down by the bolshevist secret police as counter-revolutionaries, and are fortunate if their worst fate is to be thrown into prison, of which in Russia today it may truly be said, "many go in but few come out."
>
> 4. The worst crimes of the Bolsheviki have been against their socialist opponents. Of the countless executions which the Bolsheviki have carried out a large percentage has fallen on the heads of Socialists who had waged a life-long struggle against the old régime, but who are now denounced as counter-revolutionaries merely because they disapprove of the manner in which the Bolsheviki have discredited socialism.
>
> 5. The Bolsheviki have abolished even the most primitive forms of justice. Thousands of men and women have been shot without even the mockery of a trial, and thousands more are left to rot in the prisons under conditions to find a parallel to which one must turn to the darkest annals of Indian or Chinese history.

6. The Bolsheviki have restored the barbarous methods of torture. The examination of prisoners frequently takes place with a revolver at the unfortunate prisoner's head.

7. The Bolsheviki have established the odious practice of taking hostages. Still worse, they have struck at their political opponents through their women folk. When recently a long list of hostages was published in Petrograd, the Bolsheviki seized the wives of those men whom they could not find and threw them into prison until their husbands should give themselves up.

8. The Bolsheviki, who destroyed the Russian army, and who have always been the avowed opponents of militarism, have forcibly mobilized officers who do not share their political views, but whose technical knowledge is indispensable, and by the threat of immediate execution have forced them to fight against their fellow-countrymen in a civil war of unparalleled horror.

9. The avowed ambition of Lenin is to create civil warfare throughout Europe. Every speech of Lenin's is a denunciation of constitutional methods, and a glorification of the doctrine of physical force. With that object in view he is destroying systematically, both by execution and by deliberate starvation, every form of opposition to bolshevism. This system of "terror" is aimed chiefly at the Liberals and non-Bolshevist Socialists, whom Lenin regards as his most dangerous opponents.

10. In order to maintain their popularity with the workingmen and with their hired mercenaries, the Bolsheviki are paying their supporters enormous wages by means of an unchecked paper issue, until today money in Russia has naturally lost all value. Even according to their own figures, the Bolsheviki's expenditure exceeds the revenue by thousands of millions of roubles per annum.

Such is the picture of the bolshevist régime in Russia, and you can readily see that the Russian problem at this moment is probably not so much a political as a moral problem. The Russian people are going through impossible tortures as a consequence of Russia's participation in the war. Loyal to her allies, Russia stood at her post for three long years, sacrificing not less than 4,000,000 of her best sons. The strain of this war was too great for Russia and she collapsed, and the bolshevist régime is the result of the breakdown of her economic life. Russia is lying now in seas of blood and tears because she has sacrificed everything for the Allied cause. It is up to the Allies to help her.

To help Russia means to help the Russian people and not those who have established in Russia a new tyranny worse even than the old tyranny of the Czars. Russia's salvation lies in the establishment of a stable, democratic government through a Constituent Assembly freely chosen by the entire population on the basis of universal, direct, secret and equal suffrage. The Bolsheviki dispersed the first All-Russian Constituent Assembly in January, 1918, at the point of bayonets, but the idea of a Constituent Assembly, which was one of the main aspirations of the great revolution of March, 1917, is still alive, and the greatest Russian liberal, revolutionary and socialist leaders, led by such people as Catherine Breshkovsky and Nicholas Tchaikovsky, still support this idea. The American democracy cannot remain indifferent to the tragedy of the Russian people. The time has come, in my sincere opinion, when the American people must speak for the Russian democracy against those who have destroyed the new democratic institutions in Russia, who have dispersed the first All-Russian Constituent Assembly and who are doing everything in their power to prevent the convocation of another Constituent Assembly. Whatever may happen in Russia, democracy will finally win. Citizens of the United States, support the Democracy of Russia!

# The Soviet Republic

### By Santeri Nuorteva

Secretary of the Bureau of the Representative in the United States of the Russian Socialist Federal Soviet Republic

YOU cannot solve the Russian problem by emotionalism. You cannot explain the situation there by passion. You cannot settle it by denunciation. You cannot understand Russia by saying that this man did so and so and another did so and so, and if these men had not done so or had not been there everything would be different. The Russian problem is not so simple as that, because it is a sociological problem.

I shall confine myself to pointing out just one outstanding economic fact in this sociological problem—namely, the land question. That has been the fundamental question in Russia for years and years. The peasants have made attempts to confiscate the land in Russia many, many times before the Soviet revolution. The peasants never had enough land. The Czar's government was too reactionary to present a solution of the land question even in such forms as have been accepted by so-called liberal capitalism in Western Europe. I refer to such solutions as, for example, were reached in the Irish land question, where the landlords were bought out and the Irish peasants were placed in a position where they somehow could buy on installment payments that little patch of land they got. The Czar's government was too reactionary to offer even such a solution. It stuck stubbornly to the old order for years and years. And when the day struck, when the peasants were in full physical control of the country, it was too late to offer such solutions. The peasants needed too much land and the finances of Russia were too disrupted to allow arrangements which would have been acceptable to capitalistic conceptions of society. If the land they took had been bought, it would have required tens of billions of roubles, financing of a kind which Russia was unable to do, even if she had wanted at that time. When the revolution came, the army which had been the chief weapon for keeping the peasants down, became the chief weapon in the hands of the peasants themselves.

And so the peasants just took the land. Whether you approve of it or not, it doesn't matter because you can't change it any more than you can change the course of the sun or the moon. It was, as diplomats say, a *fait accompli*, which could not be undone.

The Kerensky government fell because it had not courage enough to deal with this fact as an accomplished fact. Nor did it dare to stand for the consequences of this fact. Yet just naturally many other things resulted therefrom. If you annul the property rights on millions of acres of land, you thereby strike a death blow at the very foundations of capitalistic finance. Land is usually mortgaged. The value of papers in banks ultimately rests on land value. If you annul the mortgages, the banks are bankrupted. The bankruptcy of the banks will influence industrial and commercial life as a whole.

There were several theoretically possible courses to take to prevent such an outcome. One would have been to suppress the peasants. That could not be done because the peasants refused to allow themselves to be used to suppress themselves. Another proposition—one which is being carried out in Russia even now, although with very little success—was to get somebody else to suppress the peasants. Kolchak is trying to gather around him various armies of semi-savage nomadic tribes, such as Kalmyks, Bashkirs, etc., who have no interest in the land question, with a sprinkling of old régime officers. They are, however, not numerous enough to suppress that vast number of peasants. Then the Russian autocracy proposes another solution. They would like to have your boys come over there and suppress the Russian peasants. There has been some opposition among you to that proposition.

If there had been no Communist party in Russia at the time of the March revolution, one would have been created to cope with the issues presented by the nationalization of land. The Bolsheviki are in power because they had courage enough to stand by that issue and to pursue a policy which was necessary. The fact that they, as Socialists, were particularly interested in following such a program made them particularly fitted to take upon themselves the consequences of the nationalization of land. Those consequences were the nationalization of banks, industry and so on, as far as it has been necessary and advantageous.

It is said that Russia is chaotic. This is true to a certain extent, but where do you not have chaos in the world today? You have chaos elsewhere than in Russia. Is there more chaos in Soviet Russia than there is in the rest of the world? There are many conflicting reports upon it. I shall, however, call attention to the testimony of a man who cannot be accused of bias toward bolshevism. Mr. Allen White, who was selected by the President of the United States to be one of the representatives at the Princes Island Conference, which never took place. He writes in the *New York World* of April 27, 1919, that the Soviet government of Russia is the only stable government on the European Continent east of the Rhine. Mr. Fred Hunt, quite a conservative correspondent of the *Chicago Tribune*, who is now in Soviet Russia, wires to his paper that there is more order in Soviet Russia than he has seen for a long time anywhere in Europe. An exaggeration, some may say. Perhaps not. The average American public have certain notions about the Bolsheviki. They always mix anarchy and bolshevism all in one. Now the fact is that the Communist party, which is popularly called the Bolshevik party, is absolutely anti-anarchistic.

There is terror in Russia, it is said. Why, yes! But if you speak of the Russian Red Terror, which, according to official figures has taken by executions—or if you please, murders—about 3,000 lives during the past year, why don't you speak about other terror that exists in other places? In little Finland alone, where I come from, the anti-socialist forces, the so-called White Guard together with the Germans, after the civil war was over, deliberately executed 15,000 men and women, and deliberately starved 10,000 more to death within a period of a few months, and they admit it themselves. Kolchak boasts of the fact that, whenever he is able to get hold of a village or a town where the Bolsheviki have been in power, he executes "as bandits" all those who belonged to the Soviet government. His forces execute as murderers and looters all the prisoners they take.

If the Kolchaks ever will come into power in Russia, they will come into power over the bodies, not of three or four or five thousand, but over the bodies of five, six or seven hundred thousand men. You will have an orgy of bloodshed which you never have had in the world before. It will mean fighting in each and every village in Russia; it will mean fighting in each and every house in Russia. Is it not clear that if the Kolchaks are to put down that organization of the workingmen which is established there, they will have bloodshed for years to come, and when that bloodshed is ended they will have, at all events, that which you have there today? If you countenance the terror, tenfold much more cruel and extensive, which is being perpetrated by the opponents of the Bolsheviki, is it not sheer hypocrisy to speak about the terror that is perpetrated by the Bolsheviki? Furthermore, out of the 3,000 persons executed in Soviet Russia during the past year, more than 50 per cent were executed for looting and for street robbery, for thievery, for dishonesty. The rest of them were executed because they were found red-handed with arms in their hands trying to overthrow the existing government in Russia and to murder their officials.

The Russian Soviet government is absolutely incapable of constructive action, we have been told. This is a question on which the American public is not in a position to pass judgment because they have been systematically prevented from getting news about the constructive work which is being done in Russia. A correspondent of an important news association, who by no means is a socialist, admitted to me himself that he left Russia not because the Bolsheviki drove him out, but because it was impossible for him to send dispatches, as some outside forces prevented him from sending them. He said that 95 per cent of all his telegrams were held up, and especially were such telegrams held up which said a single word about the constructive work that is being done in Russia. You get from Russia news purely of a negative character. Now if America were cut away from the rest of the world and somebody outside of America would take upon himself to distribute through the cables any silly, foolish thing which might have been done by some individual, or might not, and news of everything else were prevented from coming out, what do you think the people outside would believe?

We in Russia are very much in that position. If space allowed, I could present official statistics of the industrial departments of the Russian Soviet government, which would prove that in spite of tremendous obstacles the Russian industries are running and that their output has been steadily increasing since April, 1918.

The educational system in Russia has been reorganized on an extensive basis, unheard of in Russia before; tens of thousands of new schools have been established; and treasures of art and music, which never reached the people before, are now at the asking of anybody in Russia.

There is one thing I desire to avoid more than anything else—exaggeration. I do not wish to state that in Russia there are idealistic conditions. How could there be? But I ask if any country in the world—excepting perhaps the United States, which is economically self-sustaining—if any country were economically cut off from the rest of the world for seventeen months, as Russia has been, what would happen to its economic life? Russia always depended for imports on abroad. How can she be expected, after five years of war and revolution, to have ideal economic conditions with the world deliberately keeping away from her every screw, every nail, every little cog-wheel of a machine, every little thing which every civilized country may need?

I admit, and by admitting it I am expressing thoughts of our people in Russia, that the Soviet government can succeed only in as far as it is economically sound. We know that we can maintain our power and the structure of society which is in Russia today only in as far as we are able to deal with the realities of life. We are ready to take upon ourselves the responsibility of responsible relations with other countries. We know that we will not succeed unless we can prove that the system we represent in Russia, under given conditions, is economically the most efficient.

We have been accused of attempting to "bribe the American business man" by promising them $200,000,000. It has been said that we are playing on the avidity of the American business man and that some of the American business men have fallen for our charms. Now, although I am a bolshevist, I shall not be so discourteous toward the American business man. I shall not accuse him of individual avidity. Yet I want to state that in spite of the vilification directed against us, and in spite of all warnings issued, there are more than 1,500 responsible manufacturers in the United States today who have in black and white expressed their desire to enter into trade relations with Soviet Russia at once without hesitation. I do not ascribe this to their avidity. I ascribe it to their common sense.

You cannot isolate the world in the way it has been isolated up to now. You may do so, perhaps, for a year or two, but isolation of this kind is a boomerang in the final account. It will hurt you as well as it will hurt us.

There is just one thing we are asking for: Trade relations and cessation of intervention.

It has been said that if the Allied troops were withdrawn from Russia there would be a general massacre of all those in favor of intervention. This story has been printed hundreds of times, but not one of the big American newspapers has ever printed the fact that the Russian government has repeatedly offered to give absolute amnesty to everyone who has participated in any struggle against it. The Russians are not out for scalps for the sake of scalps.

I don't ask you to love us. I don't ask you to do away with your prejudices against the theories we represent. Why should I? I will not attempt to tell you that we are in accord with your ideals. I would be a hypocrite if I did so. We represent there a different social order. But it is our business, not yours.

There is too much insincerity in the world diplomacy today. Mr. Lloyd George said, in his speech before the Commons, that he never heard about the peace proposition that Lenin had sent with Mr. Bullitt from Moscow to Paris. Yet a New York magazine says that Mr. Lloyd George had lunch with Mr. Bullitt the very day after Mr. Bullitt returned from Moscow. Now, Mr. Lloyd George was formally right. He never received an official presentation of that document. No one came to him, clad in the official garb of a diplomatic servant with the usual formula, "I hereby have the honor to present to your Excellency this and that." Yet he knew all about it. Is it not time to do away with that insincere hypocritical structure of diplomatic formalities that has been built up during hundreds of years? It may be in itself a funny thing, if you have enough sense of humor to sense it, but it becomes a criminal tragedy when such formalities stand in the way of sensible people getting together and talking common sense in order to stop murder and starvation.

# The Intelligentzia and the People in the Russian Revolution

By Moissaye J. Olgin, Ph.D.
New York

A TRAGEDY lurked at the bottom of Russian life, a discord fraught with dangers for the future of the nation. All through Russian history, the "plain people" never understood the man of education and culture, and he hardly ever succeeded in fathoming the "dark" sea of the masses. Both lived side by side in the same country; both bore the suffocating burden of a monstrously overgrown autocracy; yet through storm and quiet, through lean and prosperous years, they remained different camps, almost different races: the *bárin* and the *naród*, the "gentleman" and the "black people."

## The Intelligéntzia During Czarism

It was due to the cunning precautions and scrupulous watchfulness of a "scientific" bureaucracy that no coalition between the intelligentzia and the people was possible through generations. It was a consistent policy in Czar-ridden Russia to keep the peasants and workingmen away from education and to keep the man of knowledge away from the masses of the people. Neither side was to blame, yet here they were, separated by insurmountable barriers of ideas, conceptions, modes of living, fundamental experiences of existence.

It was the intelligentzia who made supreme efforts to approach the people or at least to imbue them with progressive ideas. It was a group of thinkers and dreamers, army officers and civilians, who on December 14, 1825, started an open army revolt in the streets of St. Petersburg in the expectation of finding support among the people. It was a host of intellectuals, young men and women of the well-to-do class, who early in the 70's of the nineteenth century undertook a crusade "into the heart of the people," ready to sacrifice all privileges of birth and education, to live with the plain man and to share with him their ideas. It was again a well-organized circle of intellectuals who late in the 70's and early in the 80's startled Russia with terroristic attempts on high Russian dignitaries, including the Czar, in a vain hope thus to remove autocratic pressure from the shoulders of the people. When a revival of revolutionary activities began in the 90's followed by the first signs of a broad mass-movement, we find the intelligentzia everywhere—in the factories, in the shops, in the villages, in schools—organizing, educating, enlightening, paving the way for a conscious systematic revolution of the people.

### THE INTELLIGENTZIA IN 1905–1906

When the long-coveted mass-movement at last convulsed the huge body of Russia in the abortive revolution of 1905–1906, it became evident that the intelligentzia had no power to control the Russian masses. The peasants in the villages burned and looted the landlords' estates—contrary to all advices and appeals of the thinking radical leaders. The workingmen in the cities started the colossal strikes of 1905, with the crowning unprecedented general strike of October, which was contrary to the expectations and beyond the regulating influence of the intellectuals who formed the various socialist factions. The sea of the people was too vast and the moments of contact with the intellectual elements far too few and brief to allow for a broad sympathetic coöperation between the *naród* and the radical man of learning. The revolution of 1905–1906 had no leaders. In Petrograd, a soviet to conduct the affairs of the revolution was created by the imperative need for leadership recognized by the masses. However, it was of brief duration and died with the death of the revolution.

### THE INTELLIGENTZIA'S DEVELOPMENT

The period following 1905–1906 demonstrated the basic difference in the attitude of the intelligentzia and the people toward the revolution. The masses needed revolutionary changes to remedy elemental *economic* evils; the intelligentzia expected the revolution to create *political* freedom. The masses could endure no longer the archaic land system and arbitrary power of autocracy; the intelligentzia could live and prosper, both materially and spiritually, even under autocratic pressure. The intelligentzia could easily adapt itself to the semi-parliamentary system, that crude European varnish on the surface of a blunt unwavering tyranny, which prevailed in Russia with the establishment of the Imperial Duma. The process of adaptation on the part of the intelligentzia to the seemingly inevitable order of things was in reality very rapid. Even before the last shot of the "punitive expeditions" reëchoed in the Russian villages, the intelligentzia was already disappointed in revolutionary ideas. Even at a time when dozens of fighters for freedom were hanged daily before dawn, the majority of the former intellectual revolutionists were turning to new gods. The intelligentzia had failed to stand by the revolution to the very end. It had failed to assume leadership in the great mass-upheaval. Now it was reappraising all social and spiritual values. At this time certain characteristics of the Russian intelligentzia appeared in sharp relief. Highly idealistic, but inclined towards doctrinarism; readily inflamed, yet easily disillusioned; full of self-sacrificing aspirations, yet lacking in vigor and endurance; hating autocracy, yet ready to "settle down" for practical work under an autocratic régime; loving "the people" with an abstract love, yet principally interested in the intelligentzia group; believing in the people, yet convinced beyond any doubt that the intelligentzia was destined to lead. And the greatest of these is the last because one of the reasons for intellectual hatred of autocracy was that the intelligentzia was barred from leading the nation.

Both the spiritual and the material aspect of the intelligentzia underwent a marked transformation after the abortive revolution. Spiritually, the intelligentzia, tired of self-denial, of self-sacrifice, of an excessive interest in political formulae, turns towards mysticism and theosophy, becomes absorbed in the problems of sex, gropes for an assertion of man's inner self away from the clatter of political events. Materially, the intelligentzia becomes hungry for external comfort and success in life. Gone are the days when it was deemed unworthy of a "decent man" to lead a "bourgeois" existence. Almost legendary appear the times when men refused to finish their university studies, eager to work in a dark village under the Zemstvo auspices for a miserable salary, or in a revolutionary organization with the prospect of imprisonment and exile. Men became more "practical" after the strain of 1905–1906.

This coincided with new opportunities offered by the industrial development in the twentieth century. Russia was rapidly introducing modern capitalism. New banks needed clerks, accountants, branch representatives; new factories needed engineers and other specialists; new stock companies needed hosts of intellectual workers. A large part of the intelligentzia, formerly leading an ephemeral existence, became absorbed in commercial and industrial establishments, became a live factor in the new economic order. This in itself had a "sobering" effect on many. The idea of a revolution gave way to the hope for peaceful evolution.

### MEANWHILE WHAT OF THE PEOPLE?

Quite different seems to have been the spiritual and material aspects down below, among the huge strata of the plain people. There was little comfort for the poor peasant in the fact that measures tending to his annihilation bore the stamp of approval of the Imperial Duma. It was slight relief to the workingman to know that ministers guilty of shooting down hundreds of strikers, received a vote of confidence in the Tauric Palace. The agrarian situation became even more ruinous for the needy peasants after Stolypin's agrarian reforms of November 9, 1906. The workingmen in the cities were practically outlawed by an unscrupulous bureaucracy wreaking vengeance upon its recent enemies. There was no calm, no peace, no feeling of security, no prospect of a settled existence for the masses. At the same time, people were hungrily learning. The revolution had shattered the stronghold of censorship. Hundreds of periodicals were circulated in town and village. Books found their way to the remotest hamlets. The younger generation was going to schools which were opened everywhere. Many a Zemstvo introduced even compulsory education for all children of school age. Political and social ideas were steadily pouring into the minds of the people, putting fire to the fuel of discontent. The Imperial Duma, powerless and humble as it was in the face of autocracy, had to tolerate a left wing that used the high tribunal for nation-wide propaganda. Thus, while the intelligentzia was accepting the situation as final in its main outlines; while few believed in a near revolution, and fewer were ready to become instrumental in revolutionary movements; while the revolutionary organizations were steadily losing their intellectual members and only the most stubbornly optimistic remained faithful to the old banners; the masses of the people were accumulating the fury of hatred, the lava of repressed energy, the poison of corrosive disgust, which only wait for an opportunity to burst forth. The general political strikes of 1913 and 1914 in the capital and in other industrial centers, came as a surprise to intellectual Russia. The gulf between the man of culture and the plain people was deeper than ever.

### THE INTELLIGENTZIA, THE WAR AND THE PEOPLE

The war did not bridge the gulf. The intelligentzia saw in the world conflict a struggle for democratic principles; the masses saw in it a sacrifice in blood and treasure for things they did not understand The intelligentzia had a vision of a strong powerful nation emerging from a victorious peace; the masses had the immediate experience of millions dead and wounded, of millions of households losing their best working force. The intelligentzia rallied to the support of the existing government in the conduct of the war, convinced that to win the war was of infinitely more importance than to change the form of government; the masses, even those plain men who were able to think, were unable to understand the possibility of coöperation between progressive forces and the government of the Czar. The government in its turn exerted every effort to manifest the futility of such coöperation. Inefficiency, vicious recklessness, coupled with an increase of oppression, marked the conduct of the war by the old régime administration.

The revolution of March, 1917, came not as a result of conscious efforts on the part of the thinking elements, but as a spontaneous outburst of despair on the part of the masses. Before March, 1917, the intelligentzia did not expect and did not wish a revolution. What it demanded with full vigor was a cabinet appointed by the Czar from the majority of the Imperial Duma. When the masses went out into the streets of Petrograd clamoring for bread and peace, they were not led by intelligentzia organizations. When army units, for the first time in Russian history, refused to suppress the riots by force of arms, it came as a result of war-weariness and general dissatisfaction among the masses, and not as a result of systematic propaganda. When councils (soviets) of workingmen, soldiers and peasants were formed in every province and district of Russia to represent the plain man, it was not the execution of a clearly conceived plan, but an outburst of spontaneous activity on the part of the *naród*. From the very first days of the revolution there were two centers of power in Russia, two bodies speaking with authority—the provisional government supported by the intelligentzia, and the soviet-organization supported by the masses.

## FAILURE OF THE PROVISIONAL GOVERNMENT

The chasm between them was never spanned. The thinking of the masses was elementary and concrete. The peasants wanted the land. The provisional government, determined as it was to confiscate the land of the nobility and to introduce a radical agrarian reform, became entangled in theoretical controversies and practical difficulties. Months passed without marked progress. The provisional government was well meaning, yet it could not win the confidence of the masses who were hungry for immediate improvements. The workmen's and soldiers' soviets insisted upon a speedy convocation of the Constituent Assembly. The provisional government, hampered by subtleties of electoral systems, was losing precious time and evoking unwarranted suspicions. The provisional government deemed all internal readjustments and improvements secondary to the main issue of the time—the continuation of military activities at the front. The front loomed in the eyes of the intelligentzia as the object of the most generous national sacrifices and as a duty of the Russian revolution to civilization. Here it entered into a sharp and irremediable conflict with the masses.

The intelligentzia failed to see that war-weariness was the very cause of the revolution. It failed to realize that the yearning for peace, both at the front and in the rear, was overwhelming. It failed to hear the cry of anguish coming from exhausted millions who had never seen the glory of an ideal in the war. It overlooked the cruel fact that, with the industries of the country rapidly collapsing, with transportation deteriorating, with the entire economic fabric weakening day after day, there was hardly any possibility of maintaining millions at the front. The intelligentzia remained isolated from the masses. It had no way of meeting the implacable realities of a situation. It had assumed leadership without that closeness to the currents of popular sentiment which guarantees success. It lacked the ability of moulding public opinion and wisely directing mass-energy into carefully drawn channels. It had not put before the masses a great luminous ideal, potent to make them forget pain and cheerfully endure privation. The intelligentzia remained what it had been for generations: idealistic, impractical, prone to take its own experiences as the measure of life, convinced of its inborn quality to be the leader of man.

## THE COMING OF THE PLAIN MAN

When that leadership slipped out of the hands of the intelligentzia, its consternation was not less acute than had been its joy over the March revolution. The intelligentzia saw the man of the bottom rising, and was appalled. The man was uncouth, blunt, unwieldy. He had no manners, and in his rush to quench his material and spiritual hunger he broke all laws of politeness. He lumbered straight ahead without respect for traditions, for rank, for titles. He had a strong iron-clad idea which he proceeded immediately to put into operation. Worse than that, he mocked at the intelligentzia with its doubts and scruples. The intelligentzia saw in him the rising Beast of the Apocalypse. The intelligentzia had loved "the people"; it had loved its love for the people. When the people came, with crude energy, with passions, with cruelty and with beauty, the intelligentzia became frightened. It is now sending out clarion calls to the rest of the world to save it from the Black People, even through bloodshed and famine if need be. This is one of the most profound tragedies of the Russian revolution.

History avenges itself. Russia is paying for the sins of autocracy. The revolution was deprived of the knowledge and technical skill accumulated within the intelligentzia. The intelligentzia was deprived of an opportunity for inspiring constructive work. Can the historic gulf be bridged? And if so, how soon? On the answers to these questions depends much in the future of free Russia.

# Economic Force and the Russian Problem

By Thomas D. Thacher

Member of the American Red Cross Commission to Russia

ACCUSTOMED to think in terms of our own political experience, we Americans habitually regard all problems of government as easily solved by the application of American principles. We hailed the Russian revolution as a conquest of democracy, awaiting with almost childish faith the extension of all the blessings of our own system to the great people of Russia. Because the Russian revolution, controlled—just as our own was—by economic and social forces acting and re-acting through local institutions, has followed courses defined by actual conditions of life and not by American idealism, we, of all people, seem the least capable of understanding. Judging the situation by traditional and constitutional standards and forgetting that our own government was produced by the operation of relentless economic forces, we can never understand. Governments cannot exist in theory or imagination. They are not founded upon the idealism of other lands. They spring from the very lives and aspirations of the men and women who compose them. They are brought into being by facts and forces which are not to be resisted by phrase or propaganda.

The fall of the Czar in 1917 was the natural result of unrelenting economic force. European Russia, with a balance of trade in excess of $200,000,000 in her favor for the year 1912, after two years of war was unable to support her armies or to feed her people. As in France, so in Russia the economic factor was the primary and direct cause of revolution. All classes being united against the Czar, the mass of the Russian people soon made clear to their new leaders the demands which they intended that the revolution should meet: peace, land, industrial reform—primarily economic, every one of them.

In November, 1917, the bolsheviks gained power because these economic demands had in no measure been met, nor even answered. Economic disorganization had progressed. The problem of food supply had become worse, instead of better. In the

Moscow conference of August, 1917, Kerensky's minister of finance stated with all seriousness that the nation had been saved only by the superhuman and self-sacrificing efforts of the workers in the government print-shop. There was no objection to the form or principles of the Provisional Government. The revolution in November, as in March, was economic.

The primary obligation assumed by the bolsheviks was to make peace and to meet these fundamental economic demands. For a time at least their promises of peace and economic relief were accepted, although under their control economic disorganization and destruction have progressed rapidly and with horrible results. Nevertheless, their dominion over not less than 50,000,000 of people is still maintained, and there is little evidence that their power has diminished. But, as surely as the tide turns, Russia's relief from present suffering will come in the same way as that suffering came upon her—through the relentless operation of economic force acting upon the lives of men and women. Lloyd George, the premier of England, said in the House of Commons:

> I do not despair of a solution in time. There are factors in the situation even now which are promising. Reliable information which we have received indicates that whilst the bolsheviki are apparently growing in strength, bolshevism itself is rapidly on the wane. It is breaking down under the relentless pressure of economic facts.

How may we facilitate the operation of these relentless economic forces?

By intervention and embargo the allied governments have isolated European Russia from trade, commerce and communication with the rest of the world. They have cut off the Siberian grain supply from Petrograd and Moscow and have prevented the importation of any of the things which Russia needs from the outside world. This has increased economic oppression, and one might reason that such treatment would hasten the destruction of bolshevik power. It has, however, had an exactly opposite effect. It has aroused whatever revolutionary or national feeling is left in Russian life to support leaders who, whatever else may be said, are sincere in their opposition to foreign domination. It has at the same time relieved these leaders of responsibility for starvation conditions, and has shifted the burden of this responsibility to the Allies, who are blockading the ports of Russia and cutting off Siberian grain from Petrograd and Moscow. By intensifying starvation conditions, we have placed in the hands of the bolshevik leaders an instrument of the most grim and terrible power, the control of an inadequate food supply, the power of compelling men to serve in order to be fed.

Is it not, indeed, time that we undertook to say whether or not we are charging the bolshevik leaders with things for which we ourselves may be in some measure responsible? Certainly we cannot hope for any successful Allied policy in Russia until we are relieved of all such responsibility before the Russian people. It should therefore be our aim to place the responsibility for the present economic oppression in Russia upon the leaders primarily responsible for it. Bolshevism should be confronted by the economic necessities of life and compelled to assume before the Russian people the obligation of providing an economic system under which the people, as the result of their own labors, will be fed and clothed, and free to engage in the pursuit of their own happiness. Confronted with this responsibility bolshevism will fail, as Lloyd George says, "under the relentless pressure of economic facts." We should raise the blockade if only to place responsibility where it belongs.

But, it is asked, how can we help the Russian people so long as they are ruled by the bolsheviki? The question assumes that we can do nothing. The other night I listened to such an objection addressed by a senator of the United States to representatives of the great coöperative societies of Russia in answer to their earnest plea that the embargo be lifted, so that they, with their own money, might purchase and transport cargoes to Petrograd for the relief of the people of that city, and the regeneration of trade and commerce. The senator was answered without hesitation. These societies have been able to continue their business under bolshevik rule. They are willing to assume the responsibility and the risk of distribution, and, in bringing supplies from America, will make clear to whatever authorities may be in control in Russia that the first ship will be the last ship if distribution is interfered with or prevented. Under such circumstances no government will undertake to interfere.

It was upon this very principle that the American Red Cross dealt with the soviet authorities and obtained their active coöperation in the transport and distribution of Red Cross supplies. During December, 1917, the people of Roumania were facing a severe winter with no adequate supply of winter clothing. This situation if neglected threatened to affect the morale of the Roumanian army. Ukrainia was in civil war and in actual war with the central Russian government. Shipments to Roumania had to pass through the lines between those two contending forces. We organized a shipment of thirty-one cars filled with clothing and supplies for the Roumanian people and obtained the coöperation and protection of the soviet government by insisting that the train should go forward as a demonstration that American Red Cross supplies could be transported in Russia. The entire train proceeded without loss from Petrograd to Yassi in Roumania in no longer time than was required for the ordinary passenger train to make the journey.

When our supplies from America arrived at the northern ports we were told by everybody who showed any interest that to attempt to transport them would undoubtedly result in robbery, and might result in murder. They were food supplies passing through a country which was bereft of such things. We were able to transport without loss from Murmansk to Petrograd three full train-loads of supplies and about half a dozen cars from Archangel. The only protection we had was the protection of the soviet government and the name of the American Red Cross, and we at no time paid one single copeck for freight nor did we pay any bribe to any person anywhere. We took the position that we were in Russia to serve the Russian people: that we were not inclined to pay for that privilege; and that we were entitled to receive the assistance of every one without regard to politics. That position was not only recognized by every person along the line, but we received the most courteous and favorable consideration that could have been received in any land.

These supplies from the northern ports were taken to the city of Petrograd. They were stored in a warehouse in a district far on the outskirts of that city, in a neighborhood which included some of the poorest elements in the city population, made up of people who were enduring serious hardships because they were in want of the very things that were in that warehouse. That warehouse was protected during several months by no more of a force than would be required to guard any similar warehouse in our cities. And there was nothing stolen.

Through the active aid and coöperation of the local soviets in Petrograd we distributed condensed milk in weekly quantities sufficient to feed 25,000 children. There were no substantial irregularities. The milk was not consumed by bolsheviks; it was distributed to children under the age of three.

On my way out of Russia I was compelled to remain for about three weeks in the northern port of Murmansk. I was there when the first company of British marines were landed. They were landed upon the invitation of the local soviet, acting upon instructions from Petrograd, to coöperate with the Red Guard in protecting the Murman railway against White Guard or German attack. After this company of marines were landed the British admiral fired a salute of seventeen guns to the Russian flag. The only flag in evidence was the red flag of the revolution. From that day until the day I left, the soviet authorities in Murmansk were in daily coöperation with the French and English military and naval authorities. There were 500 Czechoslovak troops awaiting transportation upon the ship upon which I returned to England. They were going to France to fight the Germans. Their progress was facilitated not only by the local soviet, but by the central soviet government. The local soviet authorities were coöperating with the Allies in the protection of supplies at Murmansk and at Kandalaxia.

These and many other instances during the early months of 1918 convinced us that through economic coöperation it was entirely possible to influence and control the use and disposition of Russian products, which otherwise would be used by Germany, and by restoring economic life to increase the power of Russian resistance to German domination.

As the first step in such a program the American ambassador recommended that American railway experts come to Petrograd to serve under the bolshevik authorities in the reorganization and operation of the Russian railways. This recommendation was made after the peace at Brest Litovsk, and when Colonel Robins returned to America he carried with him a plan for economic coöperation prepared by Lenin for presentation to the American authorities. The economic pressure at that time was so great that it was quite obvious that with American brains, American credit and American goods a tremendous influence could have been brought to bear upon the entire internal situation. With such resources we could have done much to recreate economic life, and, in recreating it, could have controlled and influenced the entire situation.

So long as we use military or economic force against Soviet Russia we confirm the arguments of the bolshevik leaders based upon the theory of the class struggle. Compel these leaders to assume the responsibility of doing business with the rest of the world and the complete failure of their absurd economic theories will be demonstrated before their own people. Russia is an economic vacuum. This vacuum will be filled by America or by Germany. No process of economic reorganization in Russia can even be commenced by the Russian people without the products of our industry. The next crop cannot be harvested without agricultural machinery and binder twine. We are today not only withholding our active assistance, but by the embargo have actually prevented such shipments from America.

Until trade with Russia is restored to its normal courses there can be no restoration of the world's economic equilibrium, and until that equilibrium is restored we shall hear much of bolshevism. When it has been restored we shall be able to forget the whole nasty business as a horrid dream. You cannot deprive humanity of the surplus production of one-seventh of the earth's surface and expect normal conditions of life to be restored upon the signing of a peace treaty—no matter how many weary months or how many tedious words are used in its composition. Lloyd George says he would rather leave Russia bolshevist than see Britain bankrupt, and that remark may be applied to the world at large. What the world needs is to get back on the job, and that quickly. Restore normal trade conditions and theories of government will be compelled to meet the facts of life or get out of the road. The first and most vital step is to open up Soviet Russia.

# Social Control In Russia Today

By COLONEL RAYMOND ROBINS

Member of the American Red Cross Commission to Russia

THE Russian Revolution was the first fundamental economic revolution in the history of the world and the forces that sprung from it will be challenging the world, particularly the western nations, for years to come.

I had rather an exceptional opportunity in Russia. For three months I worked with the Kerensky government, and knew the Minister President, and every member of his Cabinet—some of them quite directly and intimately—also several generals, Commander-in-chief Kornilov, and others in active service on the Russian front. After the bolshevik revolution I knew the various members of the Council of the Peoples Commissaries, the generals in command of soviet forces, and for something like six months I met with Lenin and Trotzsky on an average of three times a week. Furthermore, for five months of that time I was the unofficial representative of the American government, so that every communication between the soviet power and the American government, or vice versa, passed through my hands.

## THE 7 PER CENT AND THE 93 PER CENT MINDS

I want to present in this paper certain ways of arriving at a better apprehension upon the Russian situation than seems to me to have been always reached. As volumes could be written on Russia I shall have to try simply to suggest certain lines of thought. First, you will find sincere and honest men, or men who have had the reputation of being sincere and honest, absolutely opposite in their statements and in their conclusions upon the Russian situation. Why does that happen? I undertake to say that the best reason for this—there are a number of other reasons—but the best reason is the conflict between what I please to call the indoor 7 per cent palace and tea-table, formal, diplomatic and military mind and the outdoor original, extraordinary situation, 93 per cent mind of Russia. In the old days of Russia 7 per cent had run the show, had been the masters of everything in sight, of wealth and power and education and property and offices and honors. They were delightful and agreeable people; they were the only persons you needed to know. The formal, diplomatic and military groups found their associations there. After this 7 per cent had been kicked down the back stairs it was still the voice that spoke most generally to the formal, diplomatic, military and indoor mind of the Allied groups and representatives in Russia. I undertake to say that that mind is still persisting and trying to speak for Russia, and that a very considerable propaganda in the capitals of the world—as well as from Petrograd and Moscow—has sought to influence the opinion of the world adversely to the Russian revolution, to the 93 per cent, to the soviet government, to the Bolshevik party, and to the various forces and groups that grew out of that revolution. I undertake to say that some of those persons are entirely sincere and speak what they believe to be true, and some of them are entirely insincere and are definite propagandists because they want their privileges and poewrs returned to them. But I undertake to say that it is the difference between the indoor tea-table and palace mind, the 7 per cent mind, on the one hand, speaking into the ears of folks in the capitals of the world and Russia, and this outdoor, original 93 per cent fact mind that caused the conflict between the two. You can almost always tell whether the speaker addressing you has spent most of his time with the 7 per cent or the 93 per cent by the nature of the report that he makes on Russia. I wish to state frankly that I have spent most of my time with the 93 per cent.

## THE ECONOMIC PARALYSIS

I want to mention another fundamental thing, the economic paralysis in Russia. It is so easy to write about superficial and incidental elements in a great revolution. I yield to no one in opposition, resentment, if you will, and eager effort to prevent murder or atrocities of any kind. I have had a fairly definite record of standing against mob violence where it costs something to stand against mob violence. But I do not surrender my intelligence to the view that seeks out of the inevitable disorder and wrong, and brutality and crime that grow out of a vast revolution, to reason back into an ordered and normal life, and then out of that ordered and normal life make judgment against a revolutionary situation. So far as I am familiar with the history of the human race, violence and crime and execution after illegal methods have not been absent from any revolution. Cromwell was a trifle violent in Ireland. There was a little violence used by Luther against the Anabaptists and the peasants. We remember that there was some violence in France. But I undertake to say that when the ultimate judgment is written down, it will be recorded that this vast people—180,000,000—who have suffered unnumbered oppressions through centuries, and who arose and in an hour after a long period of enforced ignorance, took the bit in their teeth and went wild and brutal and wrong, blinded with the unaccustomed light, will be recorded as having been the least vindictive and brutal in the history of the great revolutions of the human race.

Underneath the froth, underneath the inevitable incident of disorder and revolution, there was a great fact that has been lost out of sight by many commentators on Russia, namely, the economic paralysis that swept Russia from the beginning, with increasing force to the time when Russia went out of the war and even to the hour when I left the country. I was forced to consider this fact because I was assigned to food and refugees, and in the course of my daily work had to get some reason for this economic dearth at the front and in the great cities of European Russia. In a land that was fabulously rich, that was verily the granary of Europe, why should folks be hungry in Petrograd and in Moscow, and why should the army be ill-supplied at the front? The answer runs as follows: When the war broke out in 1914 the 7 per cent, as from time memorial, were in full possession of all the power, all the wealth, and offices and honor of the Russian people. 1 per cent of that 7 per cent had nearly 100 per cent of the big, economic, financial and industrial management in their hands—the direction of it, the executive administrative part—and that 1 per cent of the 7 per cent that had nearly 100 per cent of the economic, financial and industrial management of Russia when the war broke out, was nearly 100 per cent German, and it did not even claim to be Russian German—it was non-resident German in most instances. How did that come about?

The Russian bourgeoisie, the educated, the privileged man or woman, is one of the most delightful persons loose on this old planet. Fifteen or twenty of them sitting and talking at a table are, I think, the most agreeable companions and have the widest range in conversation I ever had the privilege to mingle with, *but* they are not administrators. The economic and industrial organization mind is rare among the educated Russian group. They cared for the ballet; they cared for music; they cared for art and literature; they cared for the large expansive ideas, and being very rich—250,000 acres being an ordinary estate, and many times their estates ran into millions, with great wealth in mineral lands and forests, with great power and possessions—they hired the nearest competent, executive and industrial mind. That nearest mind in Russia, almost without exception, was a well trained German or Austrian, educated in Berlin or Vienna, taught the Russian language, told the physical story of Russia, and many times operating in Russia with a secret subsidy from Berlin for the definite purpose of the economic, financial, cultural penetration of Russia in the interest of the Central Powers. That had been going on for forty years, and in the last twenty years it had extensively and intensively developed. Hence when the war broke out the economic mind of Russia was German. That mind abandoned Russia, that mind went back to Berlin and to Vienna, expecting to return on the heels of a victorious army and own what it had previously managed. They wrought havoc as they went. They set fire to flowing oil wells and turned water on coal fields in the mines of the Donetz coal basin. Some of them submerged and became secret information agents of the German Foreign Office.

Within four days after the declaration of war in 1914 a partial economic paralysis began in the Russian economic system, and there was a vacuum at the top where the brain, the organizing mind of Russia had existed. That economic paralysis spread out over the Russian land, and artery after artery of normal economic life found itself being depleted and finally practically paralyzed. The Russian bourgeoisie answered admirably to the call of patriotism. Counts and countesses, princes and princesses, the wise and learned and beautiful went out in the service of their country to do what they could—very much like some of our privileged folk in America answered to the call of our country in its time of need—but they answered with insufficient experience and without the organizing mind as a national genius. The result was that while now and again there were those who rendered splendid service—like that of Prince Lvov who organized the Zemptvos and Volasts and the Russian Red Cross with extraordinary skill—they never caught up with the economic paralysis. And, as just a flash to show that what I am stating is true, do you remember that the original revolution of March, 1917, was preceded by bread riots in Petrograd and Moscow and was really precipitated by the economic paralysis and misery in the great cities of Russia? Now as soon as the revolution came, all this aristocratic help that had come in to fill this vacuum that had been left by the retreating Germans, was suspect of the revolution. The bourgeoisie, the autocracy, all of the nobles there became suspect of the revolution. They were thrown out because they had come into the service under the autocracy.

### THE DOCTRINE OF DEFEATISM

The economic paralysis, the vacuum at the top, extended under Kerensky's provisional government and on down to the bolshevik revolution. When you get actual history, facts which will ultimately be written down in spite of individuals or groups and prejudiced opinion, it will be found that this economic paralysis was at the base of the break-up of the Russian army, was at the base of the defeat of the whole national life of Russia, and was altogether the center, and, if you will, the hot-bed out of which defeatist doctrines and extreme bolshevist doctrines were developed. As a matter of fact, in the army and everywhere you found the effect of three years of suffering, of hunger, of cold, of discouragement and of failure, because the economic base of life had in a great measure failed for the vast masses of the Russian people. When you found in the barracks a cry for peace that was sweeping the army, you found that it was sweeping the army something like this:

> "Comrades," said a man in the barracks where I was speaking to soldiers urging the Allied cause, "Comrades, we went to fight because the Czar forced us to go to fight. You can't blame us for beginning because the whip and sword were over us. Why did the Czar want us to fight? Because he wanted to put the Greek Cross over St. Sofia and to get the Dardanelles. Now, we have overthrown our Czar. Why should we keep on fighting? The Germans, comrades, in the trenches are fighting us because their Kaiser forces them to fight us, just

as our Czar forced us to fight them. Why should we keep on fighting? If we don't fight them they won't fight us. They are going to overcome the Kaiser pretty soon, and if we quit fighting them they will have the time for their revolution. Comrades, we have been cold and hungry for three years. Four millions of our brothers have died or are in prisons in foreign lands. Have you heard, comrades, that they are distributing the land back in our Province? If we don't go back we won't get ours."

There was the general doctrine of defeatism throughout the army of Russia and it rested back upon the three years of cold, hunger, and economic paralysis. I undertake to state that there is no possibility of understanding the Russian situation unless you get that economic situation; and I want to state also that it will point to wise action in relation to Russia at the present time.

Defeatism in Russia is not a German product. In the Russo-Japanese war the Russian generals and Russian members of the government under the Czar said that it took two regiments at home to keep one regiment fighting in Japan because of the revolutionary gospel of defeatism. The late war was a Czar's autocratic war and was cursed in the mind of revolutionary Russia by the fact that the Czar began Russia's part in the war. The war was his war, the war of the autocracy, and, therefore, the revolutionary group, who had fought the Czar and the autocracy and denounced the war as an imperialistic enterprise, when they took command of Russia after a successful revolution, found it very difficult to say that they were supporting the Allies and that the Allies' cause was just. I am simply stating the difficulty so that you may see the actual facts in Russia.

## THE SOVIET STRUCTURE OF SOCIAL CONTROL

If we are going to think intelligently about Russia, we want to separate the Bolshevik party and its formulas from the soviet structure of social control. There is in Russia a new binder in the national life of the people, so far as the vast mass of peasants and workers are concerned and that is the soviet structure of social control. I came upon it not because I wanted to, but because I had to. The soviet first met me in southern Russia where I was dealing with actual tasks of food and refugees, with my pocket full of Kerensky credentials. I found that those credentials did not amount to very much. I found that the people did not pay any attention to them—those who were supposed to be the representatives of the provisional government—and they had no power to do what they said they would do. I began to find out where the power was. I found an old order that had been very powerful; I found the dead carcass, the lifeless remains of genuine power —the autocracy, whether you like it or not, had been a real thing. The Czar, as head of the Church, and head of the State, and head of the Secret Police, and head of the Black Hundred, and head of the Cossack Whip and Sword, had exercised genuine, mystical and forcible power that ran to the remotest villages of the Russian Empire with a real authority. When that power went down, as it did in March, 1917, it was a very narrow structure, a very highly centralized power, resting largely on mysticism and the brutal force of the Cossack Whip and Sword. When that had gone the whole thing crumbled utterly and the actual binder in Russian life passed; it was very much as if the whole nation was disintegrated and lying loose out-of-doors. The physical integrity, as well as the political and moral integrity of the empire had for the moment dissolved. The provisional government of Prince Lvov and the provisional government of Kerensky were superimposed, paper consent affairs on top of this disorganized mass that came from the break-up of the autocracy. Their roots never got down into the actual provincial and village life of Russia; they never had genuine power, except in Petrograd and Moscow and in some barracks where rifles were behind the provisional government. At the very hour when Kerensky was supposed to be exercising authority over Russia, there were local soviets in various places and they were beginning to be a real power in Russia. Those soviets were the genuine force. For instance, I say genuine because when the chairman of the local soviet said, "You can get a train," I got the train; and when he said I could get six wagons to take grain from the village to the station, I got six wagons! In other words, it was a genuine social binder. Now, what was this soviet? You hear those who say it was a mere workmen's revolutionary council in great cities, and those who speak of great cities alone, speak truly. That is true if you only look at the cities, but the moment you turn your eye on the villages you find an old, historic, democratic social control, known as the "village mir"—a sort of town meeting, broader and narrower than our town meetings—broader in personnel and narlower in jurisdiction. The personnel consisted of men and women with interests in mir lands who sat on equal terms in the village mir; their jurisdiction was narrow because they were held to communal land questions, roads, to sanitation, and so on, and were very limited in power. The Czar and autocracy, afraid of the democratic character of the mirs, would not allow them to have delegate relationships and kept them within local environment. As soon as the autocracy was repudiated, as soon as that power of the 7 per cent was lifted by the revolution of March, '17, the mirs grew up into district, municipal, provincial soviets, over night as it were. Joining with the Workmen's Councils of the great cities they became the all-Russian National Soviet, a genuine new revolutionary binder that came out of the past. And this is the only genuine binder, in my judgment, that has existed in Russia since the autocracy went down. That is the structure of the revolutionary government of the mass of Russia. What party and what formulas invest that structure is adventitious. It might be, as it is today, the Bolshevik party. It might be the Menshevik party, or it might be any other party. The machinery there is just like our own city councils and our own state legislatures and our congresses here under our form of government. The party that invests it may be Republican, Democratic, or, if they get enough votes, Socialist. So you get the difference between the Bolshevik party and the actual social control of the soviet structure, which is a genuine thing in my judgment and the only revolutionary binder in Russia.

## THE SPREAD OF BOLSHEVIK FORMULAS

Why was it possible for the Bolshevik party formulas to take such a sweep in Russia? Why did these formulas have the sweep that they actually did have and that they now have in Russia? People can lie about it as much as they like, but a nation does not risk its life for fourteen months without having some reason for it. There is a reason behind the Russian revolution, just as there is for Grape Nuts. There is always a reason everywhere. I prefer to understand the situation rather than to denounce it. For sixty years prior to 1914 there had been revolutionary propaganda, and during that time the structure of the Russian despotism had not changed an atom. During those two generations the structure of every other state in the world had modified toward liberalism. Even China awoke after a sleep of centuries and modified the structure of her government. Cossack Whip and Sword had held Russia static for all this time and every liberal development had been suppressed ruthlessly. Every little educational society among peasants, like that of Tolstoi's, as soon as it was extended, was denounced as revolutionary and the leaders imprisoned or killed. Every little economic organization, such as the miners' organization in the coke and iron fields, was suppressed by military force, and the leaders put in prison. All gatherings and meetings for free speech, free press, and general discussion of social interests and government were denounced as revolutionary and the leaders imprisoned or killed. So for sixty years men said over and over again, in cellars and garrets, in forests and Siberian prisons, "When we get power we will pass this decree and that will settle this! When we get power we will pass that decree and that will settle that!" So there was a definite formula, mind you, in revolutionary Russia, and never having had a chance to try indoor formulas against outdoor facts, it could afford to believe in them. You know there never was a set of indoor formulas made in the history of the human race that you could take outdoors and work with actual life. The Russian revolutionary mind had an indoor formula which was generally distributed over the conscious mind of the masses of Russia. I have stated that 84 per cent of the people in Russia are peasants, 9 per cent are proletarians (people who work in the factories, mills, mines, etc.) and 7 per cent are the privileged class. Some one may ask if I believe that 84 per cent, consisting of the peasantry, really had these formulas in their minds? Now, this is what I mean to say: 9 per cent of the proletarians of the Russian people are nearly entirely conscious and revolutionary; 40 per cent of that 9 per cent retain their connection with villages. Twice a year they go back for planting time and harvest. They are the traveled persons from the village. They are the wise persons, the persons who have been out in the great world and when they come back the villagers gather around them and listen to their story. They always say that a good time is coming with the revolution, and they always repeat over the formulas they have heard in the great industrial cities. So throughout Russia in the actual conscious peasant mind there was an agreement upon certain formulas of socialism. Why were those formulas socialistic? The Russian mind is a collectivist's mind and moves out on life on collectivist methods. The people move in villages, not as individuals like the Anglo-Saxons. They are collectivists—they move together. That accounts for the collectivist dogmas. Are they materialists? Not at all. They are mystics. They are intensely religious. Why then do they take up with a very definite and, if you will, brutal materialistic class formula? Let me illustrate by a story. I am walking through a portal—it is the portal of the most Holy Gate that opens through the wall into the Kremlin in the Holy City of Moscow. It is the most holy ground in Russia, and a red guard, with bayoneted gun, walks by my side. He takes off his cap. I am interested and curious. We move on and as we pass an Icon he stops and kisses it and makes the sign of the cross. Here is a member of the Guard who is ready to take orders from Lenin and Trotzsky tomorrow. I say to him, "Do you believe in God?" "*Da,*" which is yes. "Do you believe in Christ?" "*Da,*" which is yes. "Do you believe in the Church?" "*Net, net*" (no, no). "The Church has been the spy system of autocracy for two hundred years." And it is that fact, that the Greek Catholic Church had been the æsthetic and worshiping and musical center, if you will, of the 7 per cent and yet at the same time had been the spy system of autocracy upon the 93 per cent, which accounts for the 93 per cent's utterly ruthless dealings with that institution and its utter lack of power and authority over the 93 per cent in the hour of national strain. A class church is the most effective poison against the reality of the Christian doctrine that you can devise.

Many persons had adopted the formulas who did not believe in them. There is a propaganda mind, entirely familiar to intelligent people, common in public life and affairs, a propaganda mind that claims and promises more than it believes, in the hours of propaganda. Then in the hours of administrative tasks it seeks to relieve itself from the obligations of its past utterance. I suggest that the reason that that wonderful and historic character, Madame Breshkovsky, lost all power over her own workmen and peasants was because she had spent forty years in the villages and factories saying to the villagers, "It is wrong to pay rent to the landlords. When the revolution comes you will get the land and pay no rent." She would say to the workmen, "Your labors have built all these factories. When the revolution comes you will get the factories." She would say to the mass meetings of peasants and workingmen, "You will run the government." She had helped to distribute Russian copies of *The Communist Manifesto* and translations of *Doskopital.* She helped in every way to create a demand which, when the revolution came, she sought to withstand. She sought to withstand it in patriotic and noble service, and supported the Allies, and all that was generous and fine in her nature resisted this Frankenstein, in a sense, of her own building. "The old lady used to say to us that we would get the land and the factories, but the old lady is getting old now and we can't pay any attention to her," said the peasants and workmen of the soviets. And when Kerensky was overthrown she, who when I went into Russia was the most powerful personality in the land, was absolutely without anybody to do her deference, because having raised up this situation she was no longer ready to be its leader in the hour of its power. Let me give one more illustration. Twelve years ago while in New York I was invited, because I was a social worker and interested in social questions, to go down one evening to Greenwich Village, Washington Square. I went down there and as I entered the parlor there was a very delightful gentleman, just fresh from Harvard, discanting upon the perfect system of Carl Marx, and showing how scientific socialism was the whole answer to the enigma of human society. He was presenting class struggle ideal, the materialist's conception of society, the iron law of wages, and all that, and he had the whole formula in a perfect statement. There were lovely little girls there, charming persons, fresh from Bryn Mawr and Wellesley, holding their hands and listening in great rapture to this wonderful proclamation. I lived to see that gentleman sitting in a room in the Hotel Europe in Petrograd at an hour when he was charged with important public tasks in the strain of a great nation, in the strain of his own national life, in the strain of the world's fight for liberty, and then his formulas that he had spoken for in the ease and comfort of Washington Square came down the Nevsky in the form of bearded peasants and hard-handed workingmen with bayoneted guns saying, "That which you taught, we intend to do. We will push out your Kerensky and we will push out all of this stuff of support of the Allies. A class war is the only war of any interest. The Allies' war is simply a competition of capitalism for the markets of the world. We know what we are doing. Rouse mit you." Now the only thing I was troubled about was that this same gentleman, in the hour when his child came forth said, "That ain't socialism. That's thieves and murderers and German agents." Yet it was not a thing in the world but the revolutionary peasants and workingmen in Russia coming out with the program of that propaganda and trying to do logically and courageously what they believed they had a right to do. The fact that it was wrong is an entirely different matter. Our own conscious judgment is the only thing that determines right or wrong for us in this human world.

### THE QUESTION OF GERMAN INFLUENCE

Were there German agents and German money and propaganda in the Bolshevik revolution? Why, of course, there were. No intelligent person has denied it. There were German agents in the Bolshevik government, but that has been true of every government in Russia for twenty years. There were German agents in the autocracy, and they had more influence there than in the soviet government. Von Stuermer, a Germanophile, was made Premier under the autocracy by the German interest at the Russian court, and anybody who knows Russian history knows that to be true. In the Kerensky government a minister of his Cabinet was removed because he was believed to be a German agent, and in the soviet government there were German agents, and there was German money in that revolution. I had in my possession for about sixty days, part of the Okhrana records, the old secret police records—those that were not burned in the old Department of Justice in Petrograd, and all the records (not any of them had been burned) from the center of the Okhrana in Moscow. I was translating them in relation to German agent propaganda in Russia. What appeared from the record, and I think will be ultimately historically maintained, was that the Germans for at least twenty years, and probably longer than that, had kept two propaganda groups in Russia and supplied them well with money, to represent the German interest and report back to Berlin, neither group having anything to do with the other in Russia.

I dealt with the revolutionary group in the main, because that was the group I wanted to be informed upon. For instance, a general strike was called in Petrograd and Moscow just before mobilization began in 1914. It was suppressed by the Cossack Whip and Sword, but it was not suppressed until the secret police got documents and testimony that proved that better than a million marks had been spent through perfectly honest revolutionary persons for the purpose of precipitating that strike in the interest of Germany before mobilization in 1914. As soon as mobilization began they commenced to work with the group that operated through the court and the autocracy, and that group had, in December, 1916, bought Rasputin—they did not have to buy the Czarina. And the two together sought to sweep the weak Czar into a separate peace with the Kaiser. Later it was thought that the best thing to do was to allow the two groups apparently to go to it and let the best man win. The revolutionary group said, "We will bring revolution." The autocratic group said, "We will bring a separate peace"—and both were allowed to go to it. The revolutionary movement won and the Czar was overthrown. As soon as that took place, again the German agents in Russia began, one group with the Right and one with the Left, one helping the Bolsheviki and saying, "Why don't you have a real revolution? Why do you fool away your time with Kerensky?" And then saying to the Grand Dukes and privileged class through the other group, "You don't want a Kerensky revolution. What you want is law and order after the fashion of the German power." So they were working both ways, and that condition had existed in the Russian situation for many years. Were the bolshevik leaders German agents? My judgment is that Lenin and Trotzsky were convinced international socialist revolutionists, and were honest and as free from a direct relation with German militarists' propaganda as I am. I regard their formulas as economically impossible and morally wrong, but I know no reason through that fact why I should slander or libel courageous men who fought and risked their lives for their formulas every hour for fourteen months. In dealing with them at numbers of points at no time in six months did either of them ever break his word. At no time did they say they would do a thing and not do it. They were able to deliver effective power at every point. We sent a train of supplies to Jassy in Roumania from Russia under bolshevik rifles and frank, that could by no circumstances serve the German general staff. We developed actual points of contact and of advantage for the Allies. They never claimed at any time to be the friends of the established capitalist governments, but always to be their enemy and to be engaged, if you will, in the world revolution of the proletariat. I never heard of any hypocritical pretenses of friendship as regards ultimate political purposes. But Lenin and Trotzsky, being competent politicians, whatever else they are, saw the economic paralysis, and knew that economic support could come alone from one of two quarters—either the Central Powers or America. They wanted it to come from America because they thought that getting it there they would have a chance to fight against German militarist autocracy, which threatened them as well as the rest of the world. In my judgment, the fact of their world propaganda was one thing and the fact of its immediate impact upon Germany, Bulgaria and Austria was an entirely different thing; and in an hour of war you had to deal with the facts that were at hand.

## ATTITUDE OF THE AMERICAN GOVERNMENT

I wish to state that the soviet power sought economic coöperation with America. Under instructions from the ambassador of the United States, I dealt with them for two months, holding out to them that, if they would not make a separate peace and if they would refuse ratification of that peace when it was forced on them by the bayonet, America would give economic and military support to the soviet power. I was so instructed in initialed instructions from the American ambassador. I am very glad that I have those initialed instructions, because memories sometimes fail a bit. During all that time there was a definite and understood proposition before the soviet government. That proposition was accepted by the soviet government in a written statement of questions on the fifth of March, 1918, after that government had offered to put our officers on the frontier to prevent raw materials going to the Central Powers and we had refused, out of ignorance of the situation, in my judgment, after they had offered to give us the Trans-Siberian Railroad and the railroads of Russia. This offer was not only for their own benefit so that we could distribute food, but also for our benefit so that we could remove munitions and supplies from the western frontier, where, if the Brest-Litovsk Conference failed, the Germans were sure to get them. We had eight weeks in which to work, and then when the conference failed and the Germans advanced on all fronts, the Germans took hundreds of tons of munitions and supplies—twelve inch guns that had never been shot which we could have removed, and with which they killed the Allied soldiers in the March drive and in the June drive on the western front. That was part of the confusion, and the reason of the confusion was always this: When the Allied interests would admit that it was wise to do this work—evacuating supplies—even if the soviet leaders were German agents, were thieves and murderers, they would finally say, "But, Robins, if we coöperate with them to do this work don't you know in three weeks this government will be overthrown and we will be discredited with the new government? Don't you know what is coming down from Finland and coming up from the Ukraine and coming out of Siberia?" All of that came from the tea-table palace talk of the 7 per cent class. How many times has the soviet government been overthrown in the last fourteen months? Just as often as the indoor mind of Russia has cared to peddle its latest tale. It is a great outdoor situation at every turn of the road. This particular proposition was presented to the American government and to the British government. It was endorsed by the British High Commissioner, Mr. Bruce-Lockhart. It was endorsed by the American ambassador, David R. Francis. It was endorsed practically by each one of the important Allied interests—English and American—in Russia at that time. The American government and the English government never responded. I went down to the fourth All-Russian Soviet, representing the American ambassador, to wait for word from America, and the conference was delayed two days at my urgency—Lenin being ready to take action (Trotzsky was really sulking in Petrograd in those days) and, in the final hour, after two days of debate, at a half hour before mid-night I am sitting on the steps of the platform, Lenin in a chair at the back of the platform motions to me. He says, "What have you heard from your government?" I say, "I have heard nothing." I ask him what Lockhart has heard from his government? He replies, "I have heard nothing." Lenin says, "They will not support the revolutionary soviet and the peasants and workmen even against the Kaiser and they cannot fight alone because of the economic condition and military condition in Russia, so I will advocate peace." He then stepped forward and spoke for that shameful peace, and it was adopted.

There is a great historic setting here that cannot be dealt with in a paper of this length. I have outlined certain things that I believe ultimate historic truth will vindicate, and may I add this—if I am on the wrong side of the truth of the Russian situation, so much the worse for me. The ultimate truth of the Russian situation is finally going to be told. It is too significant a challenge in the history of the human race not to be thoroughly understood, and instead of disposing of it as the work of German agents, thieves and murderers, it will have to be disposed of on the basis of the sincere and courageous men who have risked their lives every hour for fourteen months, and who, after they had gotten $200,000,000 in gold in the State Banks, instead of going when the going was good, preferred to stay and risk their lives. It is absurd to esteem and to estimate this tremendous performance as though it were entirely a German agent affair. Ultimately we will get the larger historic truth.

In conclusion, I would like to submit the following recommendations in relation to the Russian situation:

First: Lift embargo at once on all Russian fronts.

Second: Enter into direct negotiations for an armistice on all fronts where Allied or Czech forces are engaged.

Third: Insist in armistice negotiations upon general political amnesty to be declared and guaranteed by both sides; Allied forces to be retained in Russia solely for the purpose of enforcing such guarantees and to be used after signing of armistice in reorganizing and operating Russian railways primarily for transport of food supplies throughout Russia.

Fourth: Send relief through American Red Cross to Petrograd and Moscow immediately upon signing of armistice.

Fifth: Send Commission of Inquiry, with industrial and trade experts, to Moscow to ascertain and report on present situation in Soviet Russia and best means of bringing social peace, economic reorganization and relief to all the people of Russia.

And may I say that there is in Russia the largest unused market for secondary production that there is in the world—the largest market for the absorption of manufactured product that there is lying outdoors and with the largest raw materials to pay for those products of any nation in the world. There is a vacuum in the economic order in Russia that has come out of the war. A hundred years of commercial penetration by the Central Powers could be beaten now and we could be the most favored of any economic and industrial nation in Russia if we would use intelligence and brains instead of allowing ourselves to be fanned into stupid passion about the atrocities and all the shameless talk about the nationalization of women that never has been anything but cheap, miserable lies of propaganda, from the beginning to the end, and was recently withdrawn, even by Harold Williams, who believes much that is evil against bolshevism and whose wife is Madam Tyrkova, a noble Russian woman.

What about bolshevism in America? There is a general challenge of the institutions of the western world and of the Christian conscience in the materialist force control of the Russian mass. It is understandable in Russia—it comes out of a past historic story, out of brutal autocracy, out of ignorance and out of terrible economic misery. It has no place in American institutions and absolutely will not grow anywhere in America after discussion and fair understanding. But if we refuse to discuss it fairly, refuse to understand it, and denounce it for what it is not, creating a false sympathy and a false feeling of resentment, for which there is absolutely no foundation whatever in the actual facts—it may grow in America. If we suppress free speech and suppress the free press and do not allow the liberal foundations of this Republic to endure, and which are guaranteed in our Constitution, then we will create bolshevists in great groups, who will be bolshevists out of passion and resentment against what they feel is injustice and wrong. If you allow such a development of lawless passion to become general as took place in some cities on May Day where men ruthlessly beat others because they wore a red tie or because they said they were socialists—then we will have bolshevism in America. That sort of situation is the very matter of bolshevism in this country or any other. We are dealing with a genuinely serious theme that needs to be understood and needs to be dealt with for what it really is and not for what it is not. And may I say to you that wherever any group of men or women seek to overthrow this government by force or violence, or wherever they seek to deprive persons of the rights of persons or property by violence or force, they should be suppressed by an unfaltering and overwhelming exercise of the force of the public law, and they will be so suppressed. There is no city in America that will not support a definite use of force within the law against persons who seek to violate the public law. But simply to think that the bayonet and bludgeon can answer ideas—that is an old failure in the history of the human race. Behind the mass movement in Russia is the misery of countless generations, is the hunger for a better human life. With a false economy and a false method, in my judgment, behind American unrest in certain places there is a definite economic wrong and a desire for a better human life—and I refer to some non-Union coal mines that I knew pretty well a little while ago. They are not so bad now as they were in the old days. I refer to the twelve-hour day and the seven-day week steel mills. I refer, too, to the sweat shops in the West Side of my own city and the East Side of New York. I refer to the rotten police courts where justice is a sham and a pretense in many of our great cities and where the poor, the least of these, invited to our shores are meeting America at America's worst, and are beginning to believe the worst about America as a whole. It is a very small portion of America that needs remedying, but that portion needs it terribly. American intelligence and resource, the Christian conscience and the democratic state are adequate to meet and answer everyone of the just needs of American life within the Constitution and the law. The only answer to the desire for a better human life is, in the last analysis, *a better human life*. There is none other answer, and the world is engaged in realizing that answer, and all forces of reaction, all who look hungrily to the old order, are doomed to disappointment in the great movement of the world's life. The German order met ideas with force in a very finely disciplined fashion. Bismarck started out against the Social Democratic protest against militarism with blood and iron, and when he started there were less than 300,000 voting Social Democrats in Germany and when he finished there were 3,000,000 voting Social Democrats in Germany.

The Czar started against ideas with bayonets in the finest organization of mere blind force that the world has ever known. He had the mystical power of the Black Hundred. He had the Okhrana, the secret police, to dog the foot-steps of every suspect. He had the Cossack Whip and Sword. He had the power to banish to Siberia a hundred over night without trial, and the answer to that power, and the answer to that method is Nikolai Lenin in the high court of the Czars in the Kremlin and Moscow, and Leon Trotzsky in the winter palace of the Czars in Petrograd. The question is, will America be as intelligent as England in dealing with the forces of unrest, holding firmly to law and order and yet daring the adventure of free discussion, on which this Republic was founded? We then shall answer with the serving church and the serving state and the serving industrial order that brings the better human life to more men, women and children than is brought elsewhere in all the world—and on that sure foundation we can stand and meet the clamor of alien systems and bid the distant generations hail.

# Foreword

## By Rt. Hon. James Bryce

IT is eminently fitting that the great problem of how permanent peace is to be created and maintained in the world should be fully discussed by the American Academy of Political and Social Science. It has been occupying many of the best minds in England, and even more of such minds in the United States; and there is a strong hope here that when the amended draft of the Peace Covenant now being prepared by the Conference in Paris comes to be published it will be in a form that will deserve and receive the approval of the American people. With that approval, however, the work of the friends of peace will not have ended. Details will have to be filled in. Rules of procedure will have to be adopted. In both these departments the public opinion of those who have studied the subject in both our countries may be and ought to be of high value. When mandates are given to and accepted by any powers under the provisions of the covenant, the same public opinion must continue to watch the manner in which such mandates are carried out, and the way in which the supervision to be given by the league is exercised. The experiment is novel, and it is difficult.

We must also remember that the frontiers of the new states that are being set up, or extended in area in eastern and southeastern Europe, and in the Near East, have not yet been drawn. It is of the utmost consequence that in drawing these frontiers the principles of nationality and self-determination of peoples shall be faithfully observed, for if they be overridden to gratify the wishes of any ambitious power, the seeds of future discords and war may be sown. Here also there are matters on which public opinion ought to be watchful and well informed above all. It is for the friends of peace in all countries to strive for the creation of the spirit, in all the nations that enter the league, which will inspire and guide those in whose hands the direction of its policy will lie, helping them in their great task by sympathy and by keeping alive the enlightened public opinion which will aid them in their task. Earnestly do we hope that the American people, who have led the way in the pursuit of this high ideal, will not only enter the league but will give it that constant and wise support, without which it cannot succeed.

# The Economic Organization of Peace

By Hon. Samuel J. Graham

Assistant Attorney General of the United States

IT is not my purpose to discuss the covenant of the League of Nations, or the proposed treaty of peace. The people of this country demand an insurance policy against war on the lives of their men and their property, and the only policy that is offered to them is the covenant of the League of Nations. For this reason they are for it, and I believe that it will be confirmed and established as far as the government of the United States is concerned. I wish rather to direct your attention to some phases of the organization of peace which are basic—certain requisites which are fundamental, even after you have a league of nations in operation.

Each of us must learn something in this world as we go along, if the world is to progress. Abraham Lincoln, with his uncommon sanity, once said: "I haven't much opinion of a man who isn't wiser today than he was yesterday." Some persons always advance into the future with their eyes turned back, looking for a precedent, and are accustomed to predict, whenever a new thing is proposed for the advancement of civilization, that if it is tried the world will wake up and find its throat cut. The world, however, wakes up, rubs its eyes, stretches itself and goes about its business. Civilization is the result of human experience and is perfected by human experience. Each generation has a certain residuum of clarified experience from which it can draw for the future. But in looking back and examining that experience, while lessons are to be drawn from it, men must read those lessons in the light of present conditions. All forms of government—whether they be monarchies, despotisms or democracies—are but forms of human housekeeping, and these forms vary from time to time as conditions in the world change. Conditions are constantly changing. The world is always in a flux. There is no trick of perpetual motion in government any more than in mechanics. We have only to take our own Constitution as an example. It has been changed many times—changed by amendments that had they been proposed in the Constitutional Convention would not have received one vote, and would have shocked and amazed George Washington and his associates; such, for instance, as giving the negro the ballot and prohibition. But conditions have changed, and all recognize today that in the course of the development of society, government and civilization these are things that are here to stay and should be.

In the organization of peace any proposed plan for a league of nations is not supposed or intended to be static and unchangeable. After a reasonably satisfactory form is secured and agreed upon, and the breath of life breathed into it, it will change, as all human institutions change. Nothing is easier and more commonplace than criticism, nothing more fruitless and confusing than hypothetical cases based upon imaginary facts. The Ten Commandments and the Sermon on the Mount, if submitted for approval today and subjected to tests of hypothetical cases propounded by present-day lawyers and statesmen, could be made difficult of defense and shrouded with an atmosphere of confusion in the minds of many. Had the first paragraph of the Declaration of Independence been subjected to the same unfair tests the debate might have continued so indefinitely that it would never have been adopted. Debate on hypothetical cases is an endless affair, and will continue without a satisfactory conclusion as long as a mind can be found to produce imaginary facts. The need of the hour is to get some form which will reasonably meet the demands and aspirations of the people—as was done in the case of our Constitution—not a form that is going to meet the views of everybody in every particular; for that is not possible.

Alexander Hamilton, when confronted in the Constitutional Convention, with the question of whether he should sign and support the form of the Constitution which had been agreed upon, said in substance that it was far from what he wanted, as the members of the Convention well knew, but that he believed it was the best that could be gotten at that time, and he would defer to the judgment of his associates, being satisfied that it was a matter of choice between the establishment of that form of government and anarchy. Benjamin Franklin took a somewhat similar position, although the Constitution was nearer to his views than Hamilton's. This is the view we should take of the plan of a league of nations proposed by the Peace Conference, and which the people of the country, I believe, have made up their minds to take.

I wish to discuss the organization of peace as it is affected by national rather than international conditions; and to point out certain essential elements in the organization of peace which must be considered after the League of Nations has begun to function. Much the larger part of government is human. The biggest, the most certain and all-encompassing thing in the world is Man, and all that is going on in this world, in the final analysis, is but man's effort to make a living. All history, whether of economics or government or society, is but the story of this effort. All government and all social institutions are but methods which man has devised to make a living. It is the human element in government that is the important element and that must always be kept in mind if any plan of government is to be successful. The Declaration of Independence was a capital transaction in human affairs. It was done "in the course of human events," as it stated. In the first words of the first paragraph of the enunciation of the fundamentals of government is the following declaration of basic human principles:

> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed.

It dealt not with interests, with states, with caste, with wealth—it dealt with the human stuff that to the fullest extent makes up government. To understand government it is necessary to appreciate fully this human element in government, and its significance and vital relation to any form of government. Man must have his living. All government must rest on the consent of the governed. When that is withdrawn the form of government falls. Empires have risen and fallen upon the same spot. The sun still shines, the fields still produce, the same soil is there, the same waters flow on, the same raw materials remain, and yet on those very spots forms of government have come and gone. In the tenth century Bulgaria controlled the whole of the Balkan peninsula. In the fourteenth century little Servia controlled the whole of that peninsula from the Danube to the Gulf of Corinth. In the seventeenth century Poland was a great nation, repelled the advance of the Turks and was thanked by Europe; yet in one century Poland was no more. In each of these cases the government had fallen into contempt, or had lost the confidence of the governed, thereby causing the withdrawal of their consent. In such cases a disposition is created not to defend and support the government, but to allow it to fall to pieces, or even to destroy it, thereby rendering it too weak internally either to hold together or resist external attack. To retain the consent of the governed the government must create and establish such reasonable living conditions for the average man as it was designed to secure. It must provide conditions where the average man can live with a fair degree of satisfaction, contentment and freedom, otherwise he will withdraw his consent. The decay and disappearance of empires has been due to political causes—to the failure of the form of government to give to man that kind of living which he demands and must have. His demands for a better kind of living have broadened with the spread of intelligence in the world. Today he is demanding and will have what he knows he has the power to get—a kind of living in keeping with the advanced conscience and intelligence of the world.

Whether representative government can, or will, meet this demand is the big and all-important question of today for us and for the world, since upon it depends the organization of a permanent peace in the world.

The importance of this human element in government, as related to the internal affairs of the different nations rather than their external relations with each other, must be noted. No nation today can prevent its domestic affairs from being affected by the internal conditions and disorders of other nations. The rapid spread of intelligence, the facility and swiftness of communication and the easy and general use of propaganda have created this situation. The domestic affairs of China react upon us. The lava of discontent, as seen in Europe today, will overflow any dyke or any wall of nationality that can be erected. The only safeguard is to have such a large measure of contentment and freedom at home as will be able to resist and throw off this poison of discontent from the outside. To have this you must provide that the individual man shall be reasonably contented and satisfied, shall have an opportunity to strive and feel that he owns himself before God and his fellow-men. One of the things that man must have, if he is going to be contented, is food, a reasonable amount of food for himself and his family. If he is deprived of food, and hunger is allowed to take possession of him, he at once loses that social morality which makes him respect the rights of others and in doing so respect himself. If he reaches the extreme of hunger he reverts to the state of a savage and an animal, and will kill his friend and eat him. This is Nature's primal law of self-preservation. Therefore, in order to have stable government, conditions must be provided under which the average man can live and be reasonably satisfied and free to strive and work out his own life.

The autocratic power of kings and caste has been swept away in the world. The peoples of the world are asking whether the powers that be are the powers that ought to be. Formerly men knew only their wants, their desires and their fears; today they know their opportunities and their power. Give the average man what is practicable and possible and he is apt to be satisfied; fail to give him what is practicable and possible and he will follow any agitator who promises him the impracticable and impossible.

In a paper of this length I cannot go into the details of how and by what means government is to give contentment, freedom and opportunity to the average man. However, it is certain that he must be allowed a reasonable share of the proceeds of industry so that he may have a fair amount of food and raiment for himself and his family, and some opportunity for recreation and thought. Above all, the government must go into the business of providing for the health of its citizens. If a man has not health he has not anything. He cannot be contented and he cannot strive. He cannot enjoy his surroundings. He has a right to look to his government to provide healthy, sanitary conditions under which he and his family can live, and to protect him and them, against contagious diseases and impure water; otherwise he becomes discontented, and a prey to the teachings that lead him from the paths of order and law. As previously stated, representative government is on trial the world over today, and the problem it must solve is how to provide contentment and freedom for the average man. Unless these are provided there can be no permanent organization of peace.

# Wanted—A Foreign Trade Policy

### By John Hays Hammond, LL.D.

Washington, D. C.

AMERICA faces a new era in her national development; her future holds immeasurable potentialities. At no time in the life of the nation has the outlook been brighter. Peace is at hand. Prosperity and happiness, on a plane far greater than the world has ever before known, may be hers if she will but grasp and develop them. The degree of our future success will be measured by the degree of our vision and judgment. These blessings are not laid before us to take or leave in a casual manner. They are dependent upon the faithful fulfilment of well-defined duties. The complexities of the problems before us are great, but they are not insoluble. Let us view the situation from the standpoint of facts and experience, rather than through the spectacles of those fascinating optimists who assume that prospects and possession are synonymous. If we follow these gentlemen we may forget that while America stands inert and undecided every other great nation is preparing the quickest and surest method of snatching the advantage from her.

The world war has come to an end, but war for world dominion has been started on the ashes of the old system. Let us bear this in mind and let us remember that a well-defined national policy is as essential to success in the contest for national supremacy as a wise military policy was in the war that is happily ended. Failure to prepare for the new contest will be little less reprehensible than was our failure to prepare for the world war. The problems that are presented to us have no counterpart in Europe, Asia, Africa or South America. We cannot follow the example of any other nation. If we would succeed, we must lead. Our economic position is as distinct fundamentally as is our country's position geographically. The war has given us an unprecedented handicap over every other nation in the world. Our foreign commerce has jumped by leaps and bounds until we have almost monopolized the world trade in many lines. It came to us through the temporary weakness of our competitors, and not through our own efforts alone. It is unreasonable to assume that we shall hold all of the markets we now control.

Irrespective of the renewed efforts of our competitors, now released from the inexorable demands of war, we may command all the foreign markets that we require and are capable of developing along healthy lines, if we will but capitalize our inherent potentials by wise fostering and conservation. No matter what efforts our competitors may make we can meet them and beat them if we will but protect our incomparable home market while developing on sound principles foreign markets which present natural and permanent outlets for our surplus products.

I shall proceed upon what I deem to be an axiom. Our ideal foreign policy is one that would give America the greatest degree of commercial independence and compel the greatest dependence from the rest of the world. In other words, as a great producing nation we should develop our foreign trade as an incident to a well-defined policy of strengthening our home markets, by stabilizing our financial mechanism, conserving our natural resources and raising our labor to the highest possible state. These are the fundamentals of a permanently successful policy—one that will give us an unassailable commercial position.

In order to realize fully our tremendous potential power, as well as the dangers which are ahead of us, it is necessary to review the economic history of this country during the last fifteen years.

America is the only country in the world which possesses, and at the same time has developed to the point of availability, the greater part of the raw materials essential to her industries. This is the cornerstone of our great industrial structure; the basis of our economic independence. It must be protected. There must be no internationalism in our economic policy! According to the director of the United States Geological Survey, our country contributed to the world's total in 1913 more than 64 per cent of petroleum; 55 per cent of copper; 43 per cent of phosphate; 42 per cent of sulphur; 38 per cent of coal; 37 per cent of zinc; 35 per cent of iron; 34 per cent of lead; 30 per cent of silver; 19 per cent of gold and 20 per cent of salt. We have timber in abundance and an adequate supply of agricultural products to make us in a great measure independent. With respect to nickel, platinum, tin and a few other minerals, there is not much likelihood of our country being self-supporting. We are deficient in potash and certain other minerals essential to our industries, but many of them can be supplied by a policy fostering their development. Such a policy may, in some instances, be well justified apart from economic considerations in view of the possible recurrence of conditions similar to those that existed during the war.

In the ten-year period, beginning in 1904, the export value of American goods was $18,692,400,442, against an import value of $13,826,293,032, showing a surplus in our favor of $4,866,107,410, or approximately $500,000,000 per annum. But from this favorable trade balance, between $400,000,000 and $500,000,000 must be deducted yearly on account of the so-called "invisible exports," the interest and dividends paid by us on $5,000,000,000 of loans and securities held by European investors; money spent by Americans abroad, remittances made by immigrants and payment by American manufacturers and merchants for freight shipped in foreign bottoms.

During this period we were compelled either to provide a favorable trade balance to the extent of approximately $500,000,000 a year to off-set the invisible exports, or to sell additional American securities to foreign investors. Payment in gold would have soon depleted our gold reserve. The financial condition of this country at the outbreak of the war was serious, owing to the fact that under the present tariff the value of the imports actually exceeded that of the exports. Fortunately, the effect of the war was to create what was tantamount to a protective tariff by reason of the incident restriction of exports to this country from the belligerent nations, thus averting a great national calamity, financial and industrial.

It is estimated that, prior to the war, upwards of 90 per cent of the products of our national industries were absorbed by our own market, and amounted to more than twice the total export trade of the world. It is not generally known that New York City alone had, before the war, a yearly output of two and one-quarter billions of dollars of manufactures, approximately equal to the entire export trade of either Great Britain or Germany and nearly three times the value of the total imports into South America from all sources. From these considerations, the conclusion would seem irresistible that the keynote of our industrial policy should be to preserve unimpaired this incomparable home market. Shall we dissipate this tremendous market, or shall we maintain it by the protection that can be accomplished through tariff legislation wisely administered? This is inherently an economic—not a political—problem.

It is vital to the industrial peace, social contentment and prosperity of the nation that unemployment of labor be reduced to a minimum. This can be effected in a large measure by the restriction of immigration and by the development of foreign markets to insure uninterrupted operation of our industrial plants. The condition of the labor market in the near future is a subject upon which authorities disagree. Among the factors which will determine this condition are the future position of women in industry and the rate of immigration compared with that of emigration. Undoubtedly, there will be a large exodus of our wage earners to their native lands as soon as conditions admit of their departure, and, in all probability, many of these emigrants will not return to America. But, on the other hand, the higher wages and better living conditions here, coupled with the desire of leaving behind the scene of sad memories, will soon attract a large number to America and perhaps far more than would off-set the loss through emigration.

A law restricting immigration should be of short duration and subject to suspension by a body of officials to whom Congress would delegate the authority. The quality of our immigration from all countries would be improved if the work of debarring undesirables were carried out abroad before their departure, instead of after their arrival here. In other words, the Ellis Islands should be established at the points of emigration. The number admitted should be based upon the record of naturalization among the various races during the decade previous to the war. Preference should be given to those nationalities which have evinced a disposition to become naturalized American citizens. It would be far better to suffer a temporary shortage of labor than to have any considerable oversupply under normal industrial conditions. We can dictate the types and numbers of our future immigrants. Shall we accept hordes of undesirables, or shall we accept the best that apply and in the number required?

After the period of reconstruction in Europe, America cannot depend on European markets to absorb her surplus products. If England permanently adopts and extends the principle of the protective tariff—as she surely will—as a basis of preferential tariffs with her colonies and dependencies, America will be deprived of her most important foreign market. In the fiscal year ended June 30, 1914, nearly 40 per cent of our total exports were to the United Kingdom and Canada. This almost equaled the entire importations into South America from all nations. These comparative figures are instructive. Germany also will lose her best market, for in the year 1913 one-sixth of her entire exports—a large part of which were manufactures—went to England, in addition to her very considerable export trade with the colonies.

There is a tendency in this country to overestimate the disabilities under which the great commercial nations of the world will labor as a result of their war losses. Let us examine the facts. France unquestionably will require most of her strength and capital for some time to come to rebuild her devastated areas. Japan undoubtedly will attempt to make great strides in South and Central America, and in many lines we cannot hope to compete with her underpaid labor. Germany, driven from her old markets under the British flag will regain—and in fact already is attempting to regain—and enlarge her sphere in Latin America. We shall meet her at every turn. Her unscrupulous agents will be found in every market and their activities will bear fruit. While England has paid a tremendous price to carry on the war, it has not all been lost to her. As a result of the war, her industry has been modernized and she is now far better equipped than ever before to compete for world trade.

It is to the so-called "backward nations" of South America, Africa, Asia and to Russia that America must look for her future markets. These countries possess enormous natural resources, as yet undeveloped, and consequently of no present value. Their people lack purchasing-power, and because of the low standards of living there is but little demand for foreign goods. The exploitation of these countries would involve the expenditure of colossal sums of money. Where is the money to come from? Obviously European financial centers can no longer provide capital, and it is to the United States that they must look for financial assistance.

In developing new fields of industrial activity, we shall not only create markets for American products but for the exports of Europe as well. In that way we shall profit by enhancing the value of the European securities which we now hold. Our Allies cannot repay these loans in gold—that would be impossible, even if it were desirable—and to receive payment in their industrial products would seriously affect our own industries. Therefore they must repay us by securities we help them create.

Before the war, England, Germany and France were the great bankers of the world. Indeed, many of our own most important industries were financed by foreign capital. England's investments abroad were estimated, in 1914, at upwards of twenty billions of dollars from which she derived a yearly income of $1,000,000,000. In Latin America alone England has invested five billions of dollars. Both England and Germany have encouraged the investment of the capital of their nationals abroad in order to control the trade resulting from the industries developed. The investment of capital in the development of a country is the "open sesame" to trade with that country.

In international investments, what the borrowing nation requires is cheap money; what the lending nation demands is good security. Under present conditions, good security is what the so-called "backward nations" find most difficult to furnish. It is not only that all business arrangements may at any time be disrupted by political disturbances, but where a dispute arises between the foreign investor and the local interests, the matter is decided by a biased local court or by executive decree, from either of which the only appeal in practice is to diplomatic intervention. Whichever way the case is finally decided, the course of procedure creates bad feeling on both sides. For this reason, I advocate the creation of a High Court of Equity to hear and determine cases solely in the category to which I have referred.

The authority of such a court would be enormous. Its decisions, published all over the world, would constitute a powerful deterrent to dishonest practice; and its influences would extend over the whole field of international business. For the plaintiff or defendant, as the case might be, would not be called upon to accept the decision of a foreign judge and jury whom he would suspect of bias against him. It is not suggested, of course, that every dispute should be taken to the High Court of Equity and jurisdiction might be fixed by a minimum sum as the amount to be involved in the suit.

If we wish to induce the investment of American money abroad, our government must change its attitude towards American investors in foreign countries. Heretofore no attempt has been made to distinguish between legitimate undertaking by Americans, founded upon the purchase for cash of land, mining-rights, etc., and those schemes—fortunately few in number—which are based entirely upon concessions extorted without valuable consideration. The view has been that there is something base and sordid in any American business enterprise conducted in a foreign country. The fact is that the opposition to the legitimate investment of American capital abroad usually rests upon the complete ignorance of the circumstances.

Anyone who is familiar with the conditions in Latin America, in Africa, in the West Indies, for example, knows that whatever measure of prosperity and civilization exists among the natives has been developed by the activities of foreign capital in those regions. What may very properly be asked of a man who invests his capital in a so-called "backward country" is: "Are the inhabitants of this country better off or worse off because you have gone among them to do business?" And by the answer to this question any foreign enterprise should be approved or condemned. In modern times there are few instances in which native races have not secured great benefits both moral and material from the establishment among them of foreign enterprises.

The foreigner, acting for his own selfish interest, will do everything he can to maintain law and order and to avert internal warfare. He will build hospitals, import physicians and surgeons, improve the sanitary conditions, develop means of transportation and communication, and encourage local industry. In the actual conduct of his business, he will bring capital to the country, give employment to labor and elevate the standard of living. Through the taxation of his enterprises, the government of the country will increase its revenues and find it easier to borrow money for its own purposes. The foreign investor invariably pays a higher rate of wages than native employers, and his business always stimulates the development of whatever resources the country possesses. An excellent and typical instance of this is what occurs when American capitalists build a smelter in Mexico. The smelter will depend upon ore mined by native wage labor, but in the surrounding district there will be thousands of acres of metal-bearing ground owned in small patches by the natives. Before the smelter is built this ground is worth nothing whatever to its owners as none of them has the capital with which to erect buildings, to import machinery and to employ mining engineers and metallurgists. But the American smelter will buy at a fair price all the ore any of these men will bring to it, thus turning into money resources which have hitherto been valueless to their possessors. Less direct, but no less beneficial, is the stimulus given by the smelter to small local industries among the natives like farming and cattle-raising. What is true of the Mexican smelter built by foreign capital is true of the West Indian sugar factory, of the Malayan tin mine, of the African gold mine, of the Burmese rice mill, of the Sumatra tobacco plantation—the foreign investor makes his profit, but in doing so he increases the prosperity, the development and advancement of the country. In addition to this he confers a benefit upon his own country, for he establishes a trade connection which may be of great value both as to the import and export of commodities and provides freight for the railways and the merchant marine of his own nation.

It would be manifestly impossible to discuss all the phases of foreign trade policy in a paper of this scope. I have dwelt only on those which I deem to be of major importance. It seems almost unnecessary to remind even the most casual observer of the necessity for improving our financial facilities abroad and of strengthening our diplomatic and consular agencies.

I have emphasized the essentiality of fostering our incomparable home markets as the basis of all our prosperity and the natural foundation of a great foreign trade. If we are to build on such a foundation then our foreign trade policy should embrace:

1. A tariff based upon the recommendations of tariff experts to protect our home markets from the dumpings of Europe and Asia and also to secure reciprocal trade advantages with other countries.

2. Legislation supplementing the Webb-Pomerene law to promote efficiency in our home industries, by eliminating uneconomic and unessential features of the Sherman law,

3. The creation of an immigration board which shall regulate immigration to meet economic demands.

4. The development of a great American merchant marine, privately owned and privately operated, with such governmental assistance as is accorded the nationals of our maritime competitors.

5. The creation of a High Court of Equity which shall adjudicate commercial disputes between Americans and the nationals of countries in which they invest or seek to invest.

# The Freedom of the Seas

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DURING the recent war no phrase has been so freely used and so imperfectly understood as "the freedom of the seas." Germany interpreted it as meaning the overthrow of British naval supremacy; Great Britain invoked it against the unrestricted use of the submarine by Germany; while the United States appealed to it for the protection of American commerce against illegal interference by both belligerents. Under these circumstances the public was unable to get any very clear conception of the meaning of the phrase. Unfortunately, the term has been glibly used by writers whose interest in international law was first aroused in August, 1914. It is important, therefore, in any consideration of the subject, to inquire what the meaning of the term was prior to the outbreak of the recent war.

## DEFINITION OF TERMS

In arriving at an understanding of the term "freedom of the seas," it is necessary to define the term "seas." As used in this connection, it means "high seas." This latter term may have been adopted as descriptive of the apparent elevation of the surface of the sea when looked at from the shore. It is undoubtedly also connected with the meaning of "high" in the sense of "high" way. In the case of *United States* v. *Rogers*, decided by the Supreme Court in 1893, Mr. Justice Field, speaking for the court, said:

> It is to be observed also that the term "high" in one of its significations is used to denote that which is common, open, and public. Thus every road or way or navigable river which is used freely by the public is a "high" way. So a large body of navigable water other than a river, which is of an extent beyond the measurement of one's unaided vision, and is open and unconfined, and not under the exclusive control of any one nation or people, but is the free highway of adjoining nations or people, must fall under the definition of "high seas" within the meaning of the statute.

Since the days of Bynkershoek (1702), it has been generally conceded that each nation has a right to exercise jurisdiction over the seas surrounding its territory to the extent of three marine miles. Such jurisdiction is not absolutely exclusive, for the vessels of other nations have the right of innocent passage through this marine belt. At the time that Bynkershoek wrote his book, three miles was considered the greatest possible range of cannon, but the marine belt having become fixed by common consent, it has not been extended with the increased range of modern guns. The term "high seas," therefore, embraces all that part of the ocean beyond the three mile limit and not subject to the jurisdiction of any nation.

## THE ORIGIN OF THE DOCTRINE

For the modern doctrine of the freedom of the seas, we are indebted to Hugo Grotius, whose book entitled *Mare Liberum* was published in 1609. The object of this treatise was to demonstrate the right of the Dutch to sail to the East Indies and engage in trade there against the exclusive pretensions of the Portuguese, which were based on the Papal Bull of 1493 drawing a line through the Atlantic and assigning Spain exclusive rights to the west and Portugal to the east. The argument of Grotius was both elaborate and lucid. He claimed, first, that the ocean was so vast that no nation could effectually appropriate it; and second, that the ocean was susceptible of unlimited use and ought, therefore, to remain perpetually in the same condition in which it was created by nature. He also claimed as an unimpeachable axiom of the law of nations that, "Every nation is free to travel to every other nation, and to trade with it." It thus appears that the demand of land-locked peoples for an outlet to the sea is nothing new.

The principles laid down by Grotius made a wide appeal, and soon became generally accepted, so that the freedom of the seas in time of peace (and this, it should be remembered, is what Grotius was contending for) has long been established and is not now seriously questioned. When, therefore, we speak of the freedom of the seas today, we do not mean the freedom of the seas in peace—about which there is no controversy—but the freedom of the seas in time of war.

By common consent belligerents have been permitted to exercise powers on the high seas in time of war which no nation is permitted to exercise in time of peace. The recognized rights of belligerents are as follows: to capture enemy vessels on the high seas; to prevent neutrals from trading with the enemy in articles contraband of war; to stop all trade with duly blockaded ports or coasts of the enemy, and, in order to enforce the above rights, to visit and search neutral merchant vessels on the high seas. A long controversy was waged in the seventeenth and eighteenth centuries over the question of the right of a belligerent to remove enemy goods from a neutral ship. The Dutch advanced the doctrine of "free ships, free goods." This controversy, as well as several others relating to maritime warfare, was finally settled by the Declaration of Paris, issued by the powers of Europe at the close of the Crimean war in 1856. That declaration marked a great advance, but it did not by any means establish the freedom of the seas, for serious limitations on the rights of neutrals to trade with belligerents were confirmed by it. Its provisions were:

1. Privateering is and remains abolished;
2. The neutral flag covers enemy's goods, with the exception of contraband of war;
3. Neutral goods, with the exception of contraband of war, are not liable to capture under the enemy's flag;
4. Blockades, in order to be binding, must be effective—that is to say, maintained by a force sufficient really to prevent access to the coast of the enemy.

### THE AMERICAN DOCTRINE

The United States was invited to adhere to this declaration, but declined for reasons clearly set forth by Secretary Marcy. The United States had long stood for the principles contained in the second, third and fourth rules, but, as Mr. Marcy stated, it was not the policy of the United States to maintain a large navy, and we were, therefore, unwilling to agree that privateering should be abolished unless the powers of Europe would agree to exempt private property from capture in time of war. The powers of Europe were unwilling to accept this amendment and, consequently, the United States did not become a party to the declaration. At the beginning of the Spanish war, we agreed with the government of Spain not to engage in privateering, so that the question has since been regarded as settled.

The American conception of the freedom of the seas is closely associated with the efforts which we have made since our birth as a nation to secure the exemption of private property from capture at sea, and to limit naval warfare to a conflict between armed vessels. In fact, during the negotiations of the treaty of 1783, Benjamin Franklin proposed to Richard Oswald an article containing the following provisions:

> And all merchants or traders with their unarmed vessels employed in commerce, exchanging the products of different places, and thereby rendering the necessaries, conveniences, and comforts of human life more easy to obtain and more general, shall be allowed to pass freely, unmolested. And neither of the powers parties to this treaty shall grant or issue any commission to any private armed vessels empowering them to take or destroy such trading ships or interrupt such commerce.

These proposals were not embodied in the treaty with England, but they do appear in almost the same words in article 23 of our treaty of 1785 with Prussia.

The United States has persistently advocated the exemption of private property from capture on the seas. President Monroe stated in his message of December 2, 1823, that instructions had been given to United States ministers abroad to propose to the governments to which they were accredited "the abolition of private war on the sea." President Pierce in his message of December 4, 1854, said:

> Should the leading powers of Europe concur in proposing as a rule of international law to exempt private property on the ocean from seizure by public armed cruisers as well as by privateers, the United States will readily meet them upon that broad ground.

In the war of 1866, Austria, Italy and Prussia agreed to the principle of immunity of private property at sea for the period of that war. Five years later, the principle was embodied in a treaty between the United States and Italy in the following terms:

> The high contracting parties agree that in the unfortunate event of a war between them the private property of their respective citizens and subjects, with the exception of contraband of war, shall be exempt from capture or seizure on the high seas or elsewhere by the armed vessels or by the military forces of either party, it being understood that this exemption shall not extend to vessels and their cargoes which may attempt to enter a port blockaded by the naval forces of either party.

In 1904 the Congress of the United States adopted the following resolution:

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That it is the sense of the Congress of the United States that it is desirable, in the interest of uniformity of action by the maritime states of the world in time of war that the President endeavor to bring about an understanding among the principal maritime powers with a view of incorporating into the permanent law of civilized nations the principle of the exemption of all private property at sea, not contraband of war, from capture or destruction by belligerents.

The American delegates at the first Hague Conference in 1899, at the second Hague Conference in 1907, and at the London Naval Conference of 1908–1909, acting under instructions from their government, urged upon the assembled powers the adoption of the American doctrine of the immunity of private property on the seas. In these various proposals the United States did not, of course, include contraband of war or goods bound for a blockaded port.

The American doctrine has always seemed to me to be a debatable question. It has always been based on the assumption that private property on land is exempt from capture and destruction. This assumption is false. We need only refer in this connection to Sherman's march through Georgia and to the present war. An invading army under modern conditions, like an army of ants, eats up everything in its path, and consumes what it does not wantonly destroy. Private property on land enjoys only a theoretical immunity.

On the other hand, the seizure of private property on the seas does not work the same hardship on non-combatants as the confiscation of property on land. Modern ships and cargoes are usually owned by wealthy corporations and the insurance is widely distributed. The loss of such ships and cargoes is, therefore, a national loss, and it is one of the most effective means of exerting pressure on an enemy and forcing him to come to terms. However this may be, when an American talks about the freedom of the seas, he is usually understood to mean the exemption of private property from capture in time of war. President Wilson undoubtedly has had this in mind in his various statements in regard to the freedom of the seas, though in linking the matter up with the League of Nations he probably has meant this and something more. In the second of his fourteen points occurs the following stipulation: "Absolute freedom of navigation upon the seas, outside territorial waters, alike in peace and in war, except as the seas may be closed in whole or in part by international action for the enforcement of international covenants."

The period of the Civil war marked a radical departure from the historic attitude of the United States on almost all questions of maritime warfare. Prior to that time we had been concerned mainly with the defense of neutral rights, but during the Civil war the United States pushed belligerent rights to the utmost limits. The contraband list was extended; the doctrine of continuous voyage was given a new application; a commercial blockade of the entire Confederate coast was established which in the last year of the war became the most rigid "starvation blockade" in history; and the British practice of seizing a vessel bound for a blockaded port the moment it left its home waters was adopted.

In applying the doctrine of continuous voyage the United States made a most radical departure from the recognized rules of international law in seizing cargoes bound for neutral ports adjacent to the Confederacy on the ground that they were to be reshipped to Confederate ports. The doctrine as previously developed by the English Admiralty courts applied only to cases where the ship was to continue the voyage to a belligerent port. The sole rule for determining the destination of the cargo prior to the American Civil war was that the destination of the cargo followed the destination of the ship. The American doctrine separated vessel and cargo, and held that a vessel might have a neutral destination while the cargo might have a belligerent destination. The case of the *Springbok* decided by the United States Supreme Court in 1866 affords perhaps the best illustration of the extension of the doctrine of continuous voyage. This vessel sailed from London in 1862 for Nassau in the Bahamas. She was captured before reaching that port and brought into New York, where she was libeled as a prize. The district court condemned both the vessel and the cargo. The case was appealed to the Supreme Court, which affirmed the decree as to the cargo but released the vessel. The court thus held that the ultimate destination of the cargo rather than the destination of the ship determined the liability of the cargo to condemnation. This decision was in conflict with the established rule of law that neutral property under a neutral flag, while on its way to a neutral port, was not liable to capture or confiscation. Several other cases involving the same principle were decided by the Supreme Court at the same time.

## THE ENGLISH INTERPRETATION

This decision of the Supreme Court was very severely criticised by English and Continental writers, though, strange to say, the British government made no demand for reparation. Great Britain, however, continued for some time to hold to the old rule, and in the Manual of Naval Prize Law, issued by the Lords Commissioners of the Admiralty in 1888, we find the subject fully covered in the following paragraphs:

> 71. The ostensible destination of the vessel is sometimes a neutral port, while she is in reality intended, after touching and even landing and colorably delivering over her cargo there, to proceed with the same cargo to an enemy port. In such a case the voyage is held to be "continuous," and the destination is held to be hostile throughout.
>
> 72. The destination of the vessel is conclusive as to the destination of the goods on board. If, therefore, the destination of the vessel be hostile, then the destination of the goods on board should be considered hostile also, notwithstanding it may appear from the papers or otherwise that the goods themselves are not intended for the hostile port, but are intended either to be forwarded beyond it to an ulterior neutral destination, or to be deposited in an intermediate neutral port.
>
> 73. On the other hand, if the destination of the vessel be neutral, then the destination of the goods on board should be considered neutral, notwithstanding it may appear from the papers or otherwise that the goods themselves have an ulterior hostile destination, to be attained by transshipment, overland conveyance, or otherwise.

A few years later, however, when Great Britain became engaged in the South African war, she undertook to apply the American doctrine. The Boer republics had no seaports. The principal port of entry for goods bound for the Transvaal was Lorenzo Marquez on Delagoa Bay, in Portuguese territory. Supplies for the South African belligerents were sent to this port and transshipped by rail to the Boer republics. In December, 1899, and January, 1900, three German vessels were seized by British war vessels on the ground of carrying contraband to the South African republics. The vessels seized were the *Herzog*, the *General* and the *Bundesrath*. The German government at once protested, and the British government found some difficulty in reconciling its action with the provisions quoted above from the Manual of Naval Prize Law. As, however, the German ships were found not to have any contraband aboard, they were released with the payment of compensation for the delay, and the incident was closed.

The London Naval Conference of 1908–1909 undertook to settle this controversy by a compromise, as the following articles will show:

> Art. 30. Absolute contraband is liable to capture if it is shown to be destined to territory belonging to or occupied by the enemy, or to the armed forces of the enemy. It is immaterial whether the carriage of the goods is direct or entails either transshipment or transport over land.
>
> Art. 33. Conditional contraband is liable to capture if it is shown that it is destined for the use of the armed forces or of a government department of the enemy state, unless in this latter case the circumstances show that the articles cannot in fact be used for the purposes of the war in progress.
>
> Art. 35. Conditional contraband is not liable to capture, except when on board a vessel bound for territory belonging to or occupied by the enemy, or for the armed forces of the enemy, and is not to be discharged at an intervening neutral port.
>
> Art. 36. Notwithstanding the provisions of Article 35, if the territory of the enemy has no seaboard, conditional contraband is liable to capture if it is shown that it has the destination referred to in Article 33.

A liberal construction of these articles, taken in connection with an extension of the contraband list, will be found to justify most of the steps taken by England in her "blockade of Germany." In separating the goods from the ship the United States Supreme Court undermined an established rule that was simply and easily applied and opened the way for endless contention and ingenious argument. In the recent war Great Britain carried the doctrine of ultimate destination to its logical limits and, furthermore, ignored the distinction which the London Naval Conference had drawn between absolute and conditional contraband. In answer to the protest of the United States she quoted the decisions of the Supreme Court in the Prize Cases of 1866. Some writers, it is true, claim that the United States did not extend the doctrine to conditional contraband. This is true, but then it is also true that the court did not have to, for in the Civil war cases the entire Confederate coast was blockaded and, therefore, non-contraband was liable to seizure.

## WHAT IS CONTRABAND?

One of the greatest difficulties in applying any of the rules of maritime warfare is the impossibility of drawing a sharp distinction between contraband and non-contraband. Modern warfare has become so complex that there are very few articles which are not susceptible of military use. It is also difficult to draw any sharp distinction between manufactured munitions of war and the raw materials of which they are made. A modern industrial nation like Germany can manufacture all the military supplies she needs provided she can obtain the raw materials. In fact, during the greater part of the recent war Germany was better equipped for manufacturing munitions than any of her enemies or than any of the neutral countries, and she would not have objected to the cutting off of the manufactured products provided she could have been supplied with the materials she needed.

We have reached a point where we must either abolish all right of blockade, all right to seize contraband, and limit naval operations to armed conflicts between men-of-war, or else we must surrender all neutral rights of trade in time of war and permit a power which has a naval force strong enough to do it, to stop absolutely all trade with the enemy.

## THE LEAGUE OF NATIONS AND THE FREEDOM OF THE SEAS

The latter alternative is precisely what is provided for in the covenant of the League of Nations in any war between the members of the league and a recalcitrant state. Article 16 provides:

> Should any member of the league resort to war in disregard of its covenants under Article 12, 13 or 15, it shall ipso facto be deemed to have committed an act of war against all other members of the league, which hereby undertake immediately to subject it to the severance of all trade or financial relations, the prohibition of all intercourse between their nationals and the nationals of the covenant-breaking (state) and the prevention of all financial, commercial or personal intercourse between the nationals of the covenant-breaking (state) and the nationals of any other state, whether a member of the league or not.

In case the council of the league fails to make a recommendation for the settlement of the dispute submitted to it, the parties to the dispute will presumably be permitted to fight it out, and the constitution of the league makes no provision as to what rules shall apply to the conflict. In the absence of any such provision, it is presumed that the present rules of maritime warfare would apply. But the constitution of the league undoubtedly implies some new revision or codification of the rules of international law. If war is to be permitted between members of the league, it should be restricted as much as possible, and if third parties are to be kept out, existing rules governing maritime warfare will have to be thoroughly revised. In this connection it is well to recall again the second one of the fourteen points: "Absolute freedom of navigation upon the seas, outside territorial waters, alike in peace and in war, except as the seas may be closed in whole or in part by international action for the enforcement of international covenants."

If this idea is carried out in a war between the league and a recalcitrant member, there will be no neutrals, and the covenant-breaking state will be absolutely isolated and interdicted. On the other hand, in a war between individual members of the league, over a dispute which the council has been unable to settle, the neutral members of the league should be permitted to continue uninterrupted their commercial relations with the belligerents, and there would then be freedom of the seas in war as well as in peace.

# The Need of Social Reorganization in America

By OSWALD GARRISON VILLARD

Editor of *The Nation*

WHEN one has just beheld on the other side of the ocean elemental human forces unleashed; the very deeps of society breaking up; the pillars of civilization rocking on their bases; whole classes of the citizenship of nations lunging forward to take upon themselves the burdens of governing; when one has gazed upon a spectacle the like of which no other generation has beheld in more than a century, one comes back humble, indeed, and more than ever convinced of the fallibility of any single human judgment.

How can anybody just from Germany, France and England who has looked beneath the surface undertake to discourse upon the "organization of peace"? When I arrived in Paris from Berlin, an American statesman asked me, "How can I, Mr. Villard, think of the League of Nations, when civilization is all but collapsing before our eyes and may yet go down?" I not only agreed with him; I found he agreed with me that the war which was to make the world safe for democracy had thus far only made the world less safe for democracy than it had been since democracies were attempted.

But the darkness of the skies abroad, of which people in America are so amazingly unaware, is no reason for failing to take note of the portents and to make every possible effort to ward off the storm. Here at home reorganization *is* the great need of the hour. All the more so if one believes as I do that the terrible unrest abroad and the steady drift towards communism will inevitably make itself felt here if prompt steps are not taken to allay the prevailing discontent. It has been the fashion in certain quarters to dilate upon the wonderful effect of the war in making the whole nation one. This is a delusion. Never were the workers as unhappy. Never were there larger classes of our citizenship filled with bitterness and a feeling of being wronged. May Day has borne testimony to that. It is very easy to say when one hears that four millions of foreign born Americans are planning to return to Europe that it is "good riddance of bad rubbish." But aside from the economic loss of these people, there is nearly a tenth of our citizenship—down-trodden, ill-treated, disfranchised and disadvantaged—that cannot emigrate even though it would and these are beginning to seethe with unrest and anger. I refer, of course, to the colored people, now estimated at ten millions, deemed good enough to fight for democracy, but not good enough to experience it or to live as part of one. Meek, patient and long suffering, these Americans are among the first who should be thought of in any plan of organization for peace. If we continue to drift without a program for the advancement of these people to real democracy, we may be sure that they will espouse socialism, or communism, or bolshevism, or anything else which will promise them the equality they are denied.

But my plea is not especially for them or any other class today. I heard Secretary Daniels remark truly in Paris that a hundred years had elapsed since August 1, 1914, and I took the liberty of amending this by saying that a hundred years had passed since the armistice. There are pressing such new and difficult problems abroad that the first step toward organization for peace in this country ought to be the creation of an absolutely unbiased, really representative society or bureau to study what is happening abroad and to report thereon in some way to compel the attention of the public, the newspapers and the Congress to what is going on. Let us take this new-old device of the soviet form of government. To suggest that it may perhaps have merit is to subject oneself to the charge of being a bolshevist—a word which has just taken the place of "pro-German" as an epithet in our national vocabulary. Yet the other day one of our own American officials at Paris solemnly assured the newspaper men that if the soviet type of government were made really representative he saw no reason why it should not be as democratic as any government, if not more so. It was only to the men who were running the present unfair and undemocratic soviet government in Russia that our government objected, he declared.

Obviously, if this is the case it is time for people everywhere in America to take the soviet seriously and to investigate it dispassionately. Personally I feel sure that the soviet has come to stay in Europe until it has been thoroughly tried out. While I was in Germany all political parties agreed that the new German constitution now being drafted in Weimar shall contain within it the soviet as the unit of local self-government and that it shall stop short only of the respective parliaments of the several states and of the federal state. I heard everywhere the belief that this soviet procedure would be the best device for the reorganization of industry. Everyone admitted that that extraordinary demobilization of the German army—when it came back beaten, hungry, bitter at its officers and convinced that it had been lied to and tricked—could not have been put through without bloodshed or disorder of any kind if it had not been done by the soldiers' and workmen's councils which were everywhere formed. I met in Berlin the active head of the German Anti-Bolshevist Society, Dr. Stadler, and found him a firm believer in the permanence of the soviet in industry and local government, although he is fighting bolshevism day and night. Dr. Stadler, like everyone else whom I met in Paris, London, Berlin and Bern, agreed that Lenin was quite the ablest statesman in Europe today.

Now, plainly if this German, who saw the forming of Lenin's government when a prisoner in Russia, and a leading American official in Paris express opinions like these it is time for Americans to look into the soviet in a scientific spirit. It would certainly not do for us to let the wicked Germans get the advantage of us by picking up something good in government and getting the jump on the rest of the world. Perhaps we can let them go ahead and be our experiment station and discover whether there is anything worth while in it or not. But meanwhile we must surely have some body or group watching the experiment and passing upon it and warning us in time if we are losing a good thing.

There is something attractive in group representation, which is what the soviet is. I was once in a modest way a college teacher and I cannot say that the idea of college professors as a group having a voice in government is altogether unattractive. I have a feeling, moreover, that our great capitalists might like a governmental device by which their representatives could sit in governmental bodies with the right to be heard open and above board without recourse either to boodle funds or paid lobbyists or underhand means of protecting their rights. Please do not misunderstand. I am not convinced that we have anything whatever to gain from the soviet. I am only a journalist who is trying to be open-minded about it and to record the facts of its progress or decay, but I am almost ashamed to admit that I am a journalist, because there has been so much lying in the press about Russia and everything that has gone on there.

It is not only as to Russia that we need information. There is revolution going on in England today, peaceable revolution, thank fortune, carried on in the good old Anglo-Saxon way without bloodshed; yet still revolution. I found no Englishman in Paris who would deny that it was revolution, or assert that it was not going any further. Indeed, in the English Labor Party's program, in the recent decision in the case of the coal miners, in the almost certain nationalization of the mines, in all these we find clear indications of the tremendous change coming over the industrial life of England. Change which will be hastened and not delayed by the distressing financial situation in which she finds herself, and out of which she can hardly extricate herself without severest sacrifices unless she deliberately adopts a policy of disarmament and ceases to maintain a large navy and large armies to rule over her dependent peoples by force. Whatever policies she adopts, she is going to be leading the world in so many ways in her social changes that America must be following her with profoundest interest and care. It hurts our feelings to hear people say abroad that we are at least forty years behind the times in America. But this they are saying, and since our daily press cannot be relied upon to give us complete and accurate news of what is happening, we must find other ways of reorganizing for peace by following events abroad with zealous care.

This is all the more necessary if what has been said so often during this war is true—that we have abandoned our isolation and are now to be a part, through an alliance with France and our partnership in the League of Nations, of all the happenings abroad; that, absolutely forgetting the advice of Washington, we are to have entangling alliances. We have recently seen how embarrassing it is to be in a war without knowing about the secret agreements of our allies. Plainly, if we are to play the old diplomatic game, we should not do it blindfolded. Let us find a way to get all the light we can.

But most essential of all, if we are going to organize for peace on any sound basis, is the need for a liberal and a tolerant spirit in dealing with the problems before us and with those of our fellow-citizens who are so unkind as to have other views than ours as to how our America and the world should be reorganized. It is not surprising that war-worn Europe should be in the frame of mind in which it is now the custom to throw a hand-grenade at the fellow one does not like. But we have escaped the real stress and strain of war so that it is rather trying to read of the recent May Day happenings throughout the country. We must surely all unite to preach the doctrine that it is utterly wrong to try to upset or alter this government by force, however inconsistent this may seem with our recent actions. It is a mighty poor American and a stupid, dull reformer who lets himself believe that the way to get a better country is to organize it by bullets or the cowardly infernal machine. That way lies madness, as Bavaria has just shown.

But if we try to suppress with rigid hand those who would urge a different form of society; if self-constituted mobs of uniformed men are to become censors of what the dissatisfied may or may not say; if we deny the right of free speech, and free thought to the dissenters; then we are padlocking the safety valve. If we are going to meet them with bitterness and anger, with threats of deportation and prison, then shall we merely intensify the nation-wide unrest which the war has done so much to increase. To let loose an idea upon the world is often a terrible thing, but still more terrible is the effort to combat ideas by force and by incarceration. The only way that we can organize for peace is by setting ourselves rigidly to inquiring what is wrong with us and what we can do to better the situation. Let us have a national commission of inquiry—not of political back-numbers and lawyers and elder statesmen and still elder labor leaders—but let us have upon it the spirit of youth and progress, with even a non-partisan leaguer and a socialist or two. They usually do not bite when in private company and though they have not converted many of us Americans to their views they sometimes have interesting and useful ideas to impart.

When the red flag waves over the public buildings of two-thirds of Europe; when there are twenty-two straight-out socialist republics being organized in Germany alone, it is surely time to examine into this strange doctrine which numbers its followers by the hundred millions between Siberia and Paris. Americans ought surely not to disregard the fact that the conservatives in Germany and Russia today are now the majority socialists who at the outbreak of the war were the extreme radicals. We must likewise not overlook the truth that our two great political parties are today the most conservative parties in the western world, and that they are even further to the right than the professed British Tories. There is, therefore, no political alternative for those whose desires are unexpressed than to go to the Socialists. If we undertake to organize wisely for peace we shall lend all possible aid to a liberal party which shall take middle ground, else shall we see the cleft and the bitter feeling of the hour grow. In England the Labor Party points the way. Perhaps our own new-born Labor Party, if it does not confine itself merely to those who hold union cards, can supply the crying need.

Whether it does or does not, one thing is certain, the movement to the left in America is coming. No one can study conditions abroad and rest assured that America can remain apart from the imponderable world currents and keep unchanged the old America so many of us liked so well, loved so profoundly. Shall we guide it and direct it into wise channels by ascertaining and removing the causes of social and economic discontent, or shall we combat it by force and repression and lynching—and thereby compel it to nihilism and to what people consider bolshevism? That is the fundamental question to be answered before there can be any wise organizing for peace.

# The Amended Covenant of the League of Nations

By Thomas Raeburn White, Esq.
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THE "Amended Covenant of the League of Nations" having been adopted by the Paris Conference, the question is now before the American people whether it shall be adopted or rejected by them. Most of the objections, based upon mere form, have now been removed. It is still contended, however, that if the United States should join the league it would thereby become subject to the control of the organs of the league and would find its freedom of action restricted in a manner unfavorable to its best interests. It is even argued that our national safety and independence would be endangered. These objections have been advanced by men whose opinion is entitled to weight and they deserve serious and thoughtful consideration.

It is necessary to consider the exact nature of the proposals which the league covenant makes in order to ascertain how far they are likely to improve international relations and to what extent the objections advanced may be just. The league covenant contains so many separate articles framed in technical language that it is confusing to consider it article by article; it will be much simpler to consider the proposals, stated rather as objects of the covenant. Having regard to the restraint or compulsion imposed upon the members of the league, the basis of the objections now urged, the proposals of the covenant may be divided into two classes: First, those whereby a nation binds itself to do or not do certain specified things, either absolutely or under certain contingencies; second, those whereby a nation agrees to be bound by the action of an institution set up by the league.

Those provisions of the covenant merely offering opportunity to league members to take voluntary action along certain lines, but without compulsion or relating to matters to be hereafter dealt with by the league, are not discussed, as not open to the objections now under consideration.

## I. OBLIGATIONS IMPOSED UPON LEAGUE MEMBERS BY THE BINDING FORCE OF THE COVENANT

### a. *Enforced Examination of International Disputes and Delay before Commencing Hostilities*

Many of the terms of the covenant relate to one great purpose —to compel nations before commencing war against each other to submit the cause at issue to the examination of an international court or council, as the case may be, and to delay hostilities at least three months after the decision has been rendered.

This obligation, imposed upon all members of the league by the binding force of the treaty, is entirely apart from any duty to obey the decree of a court or the recommendation of a council—a matter to be separately considered. The requirement of an examination of the dispute and the enforcement of a delay which altogether would not be less than nine months after the public statement of the case to court or council would be almost certain to prevent war in most cases. The examination of facts clears away misunderstandings, discloses the falsity of claims made without foundation, and lays bare the hypocrisy of states masking aggressive aims under pretended grievances. Even more important is the necessary delay after the case has been stated to the world. The delay gives time for the passions to cool, for the cost to be counted and for that element of the community opposed to the war to make its influence felt. Time always makes for peace; it is the great pacificator, as well as the great healer. It has been said, and truly, that if but a few days had been given for discussion, after the opening scenes of the late war, it probably would have been averted altogether. It is as near a certainty as human intelligence can foresee, that, if the provisions of the covenant on this point are enforced as written in the treaty, the probability of war will be much diminished.

This is admitted by the opponents of the league, but objections have been heard to the method of enforcement. It is recognized that in order that the treaty may be of binding effect, all members of the league must agree to enforce it. It is objected, however, that the treaty would bind the United States to send its armies abroad, even if the cause they were summoned to support was not a just one; that the United States would be obliged to fight but could not decide for itself upon which side.

If a nation should violate this covenant and attempt to use violence in the furtherance of its own ends, without submitting its cause to court or council, as provided by the treaty, there could be but one side. The use of violence under these circumstances would not only be a gross violation of a solemn obligation —it would be a disturbance of the peace of the world, which the United States, as well as all other nations, would be bound to condemn and oppose. But although a term in the treaty obligating the United States to send troops for such a purpose might well be defended, there is no such obligation in the treaty. The stipulations regarding this matter are contained in Article XVI. The members of the league agree, in the event of such violation, immediately to subject the offending state

> to the severance of all trade or financial relations, the prohibition of all intercourse between their nationals and the nationals of the covenant-breaking state and the prevention of all financial, commercial or personal intercourse between the nationals of the covenant-breaking state and the nationals of any other state, whether a member of the league or not.

This is the extent of the absolute undertaking of any member of the league. It agrees to treat the offending state as an outlaw, so far as commercial or social intercourse with it is concerned; it does not agree to take up arms against it. The article, however, proceeds:

> It shall be the duty of the council in such case to recommend what effective military or naval force the members of the league shall severally contribute to the armed forces to be used to protect the covenants of the league.

This is no more than a provision for a recommendation by the council. The members of the league do not agree to furnish the armed forces recommended or any armed forces for the purpose of subduing the offending state. It is probable that such forces would be furnished by the United States, but Congress would have to decide in favor of it before it could be done; and, if not done, it would be no violation of the treaty. It is therefore apparent that the supposed obligation to furnish troops regardless of the character of the controversy does not in fact exist.

There is nothing new in the character of restraint voluntarily submitted to by the United States under these terms of the covenant. It is our settled practice to make treaties with other nations, agreeing to submit disputes to examination and decision and to allow a specified time to elapse before hostilities are begun. To enter into a general treaty of that character with substantially all the other nations of the earth would be no departure from this practice, but a continuance of it. In so doing, the United States should be willing to assume its full share of the burden of enforcing the treaty. However, the obligation to do so under the terms of this covenant, goes no further than to require the exercise of what is commonly called economic pressure, and calls only for the use of troops or ships of war as a result of the recommendation—not the command—of the council, and only in case the properly constituted authorities of the United States so decide.

### b. *Limitation of Armaments*

Another obligation which the members of the league enter into by the terms of the treaty relates to the limitation of armaments. It is recognized that the burden of maintaining great armies and navies, which has rested so heavily upon Europe, is not only an unnecessary and gross imposition upon the people, but that "the maintenance of peace will require the reduction of national armaments to the lowest point consistent with national safety."

The members of the league agree to disclose to each other the condition of their industries which are capable of being adapted to war-like purposes, and the scale of their armaments. They agree that there shall be full and frank interchange of information as to their military and naval programs. There is no restriction upon the members of the league as to the size of their armaments until after they have themselves agreed to the restriction. The council is to determine what military equipment and armament is fair and reasonable for each nation. This determination, however, is not binding upon any state unless and until the state accepts it by its own free act. Thereafter, not on account of any action of the council, but by the express terms of the treaty, the state agrees not to overstep the limits which it has itself accepted.

These provisions are so reasonable and lend themselves so plainly to the preservation of peace, that no opponent of the league has come forward to object to them.

### c. *Publicity of Treaties*

Another provision by which the members of the league are bound is that they will make their treaties with one another public; and that no such treaty or international engagement shall be binding unless registered in the manner provided by the league, so as to become public property.

This provision cannot fail to have a beneficial effect upon the relations existing between states. Secret treaties have been at the bottom of many wars. And while secret agreements cannot, perhaps, be prevented by this term of the covenant, the very fact that they are declared to be not binding will deprive them of much of their injurious effect upon international politics.

### d. *Guaranty of Territorial Integrity and Political Independence*

Article X of the covenant, which has raised so much controversy, provides that the members of the league

> undertake to respect and preserve as against external aggression the territorial integrity and existing political independence of all states, members of the league. In case of any such aggression or in case of any threat or danger of any such aggression, the council shall advise upon the means by which the obligation shall be fulfilled.

Several serious objections have been advanced against this article. Perhaps the most serious is that a positive obligation by the United States to protect the territorial integrity of a member of the league against external aggression obligates the United States to defend by force of arms any such aggression against that state. This, it is said, would have the effect of compelling the United States to send troops abroad in obedience to the treaty on all such occasions and whether it believed the cause of the attacking state to be just or unjust.

It has been suggested in reply that the effect of this clause of the treaty is no more than to reënforce the provision of Article XVI—that members of the league will oppose by economic pressure, and, if they so decide, by armed force, a state which has refused to submit its case to court or council. This is not quite accurate, however, as a case might arise in which a state had submitted the dispute to court or council, had given the requisite delay, and still insisted upon proceeding with a war which would violate the political independence or territorial integrity of a member of the league. It might do this under circumstances which would not be a violation of the covenant (as where there was no unanimous recommendation of the council) and, therefore, the members of the league would not be bound to oppose it under Article XVI. They might, however, be called in under Article X to defend the state attacked because its territorial integrity or political independence was threatened.

It has also been objected that the apparent effect of Article X would be to maintain permanently the political organization of the world in the way it is fixed at the conclusion of this war, which is an impossibility. Nations live and die like human beings; they have their beginnings, their periods of greatest prosperity, and their periods of decline. In all human probability nations will rise and fall in the future as they have in the past. This necessarily means that political control of territory will change, and in some cases political entities will cease to exist.

It is apparent on examination that Article X rises like a lone peak above the other provisions of this covenant. It is in effect an absolute prohibition of war for territory or for the destruction of a political entity. It would be only a short step beyond this to forbid war altogether for any purpose, and require all states to use legal methods in acquiring objects which they may have in view. That this principle will sometime be established is a certainty. It is, however, a serious question whether it can precede the establishment of an international court and the acceptance of the principles of international law as governing relations between states Before a prohibition of war for these or any specified objects can be made effective, there must be in actual operation another and better means of adjusting international differences. You cannot prohibit change by law. You can require change to take place only in accordance with certain rules or principles, but these principles must be recognized as applying in such cases and competent tribunals must be in existence ready to enforce them before all other means of change can be effectively forbidden. When an international court has become well established and has demonstrated its ability to decide international questions judicially—and not merely by way of compromise—and when the principles of international law are better settled and are recognized as really having the force of law, a prohibition of war will be more likely to be effective. Until that time such a prohibition as is contained in this guarantee of territorial integrity and political independence of the members of the league must be considered somewhat as a temporary provision intended to preserve existing conditions for a limited time only. It was no doubt in recognition of these facts and mainly on account of Article X that the provision was inserted enabling a state to withdraw from its obligations upon giving two years' notice.

It would clearly be appropriate as a part of the treaty of peace for the signatories to guarantee the boundaries fixed by the treaty for at least a temporary period; such guarantees to be enforced by the states in the best position to do so. It might have been better if Article X had been inserted in the treaty of peace, but in view of the possibility of amendment and the opportunity to withdraw on two years' notice, its inclusion in the covenant is not sufficient ground for rejecting it. The treaty of peace and the covenant will be adhered to by the same nations in the first instance, and after all, it is not a vital objection that this guarantee is included in the one rather than in the other.

Moreover, it should not be overlooked that the covenant contemplates the establishment of an international court and that the assembly will be competent to deal with questions of international law. It is, therefore, not too much to hope that when the new system is placed in operation, prompt steps may be taken to establish an international court and to develop international law, so that within the course of a few years machinery will exist capable of dealing with disputes between nations involving questions of territorial integrity or political independence. Thereafter the inclusion of Article X as a permanent obligation in the covenant for a league of nations will be no longer objectionable.

## II. COMPULSION OR RESTRAINT OF LEAGUE MEMBERS THROUGH THE ACTION OF INTERNATIONAL INSTITUTIONS

### a. *Decisions of an International Court*

Although it goes beyond existing practice in some particulars, the covenant is far behind in the matter of the judicial settlement of international disputes. This matter has been especially pointed out by Senator Root. The United States has so frequently submitted questions of great importance to the decision of international tribunals, that it has become our usual practice. We have not only submitted questions of minor importance, but many which were distinctly of major importance, involving questions of the class commonly described as those which concern the honor, the vital interests or the independence of states. Among such may be mentioned the Geneva Arbitration over the Alabama claims, the numerous boundary disputes between the United States and Great Britain—especially in connection with the Canadian boundary—and the Fisheries Cases. The United States now has many treaties with other nations providing for the submission of questions arising between them to judicial examination and decision.

Not only the United States, but other nations have made great progress in the same direction. At the first Hague Conference the principal nations of the world agreed upon the establishment of a permanent international court of arbitration, which has done useful service. At the second Hague Conference, held in 1907, substantially all the civilized powers of the world agreed upon the constitution of an international court, designated the International Court of Arbitral Justice, and the only reason it was not then established was because an agreement could not be reached as to the method of appointing judges. Subsequently progress was made toward the establishment of an international prize court, although it never actually came into operation.

This shows the trend of modern thought toward the inevitable conclusion that questions arising between independent nations should be decided according to principles of right and justice rather than by violence. Experience has demonstrated that there is no insuperable bar to the judicial decision of such questions, even though involving what has been termed the honor and the vital interests of the contending powers.

With this history it was to have been supposed that the covenant establishing a league of nations would have provided specifically for the establishment of an international court (which had already been agreed upon in form by all the nations of the world) and would further have provided means whereby nations would be required to submit disputes—if not all, certainly all those of a justiciable character—to such court for decision. The provisions of the covenant, however, in this regard are very disappointing. No court is provided for. Article XIV states that the council shall formulate plans for the establishment of such a court, but that is by no means so advanced a step as was taken by the second Hague Conference twelve years ago. It is further provided that:

> The high contracting parties agree that whenever any dispute or difficulty shall arise between them, which they recognize to be suitable for submission to arbitration and which cannot be satisfactorily settled by diplomacy, they will submit the whole matter to arbitration.

This provision, however, when analyzed, is seen to amount to very little. The only questions which the league members agree to submit to arbitration are those "which they recognize to be suitable" for such submission. The covenant is somewhat strengthened by the declaration in the amended article to the effect that certain classes of cases are "generally suitable for submission to arbitration." This amendment, however, while it may serve as a suggestion to league members who have disputes with one another, is distinctly not binding. If it does not desire to submit a question to arbitration, it is apparent on the face of the article that a nation can avoid doing so by refusing to recognize it to be "suitable." The article is of no binding force whatever. The covenant would be greatly strengthened and would offer much better hope for its future successful operation if it provided for the establishment of a court to which questions of a judicial nature should of necessity be submitted.

A method should also be provided whereby the judicial character of the question of dispute may be ascertained either by the court or some other appropriate body. Thus it would not be left to the decision of the states concerned, who, if they do not wish to arbitrate, can always decide that the question is not one of a justiciable character.

Although there is no specific provision on the subject, it is a matter of gratification that the language of the covenant is sufficiently broad to enable the council or assembly to undertake the important duty of codifying, harmonizing and determining the principles of international law to be applied by the court when established. Both these bodies are to meet at regular intervals and both have jurisdiction over "any matter within the sphere of action of the league or affecting the peace of the world." This jurisdiction is clearly broad enough so that either body could assume the important and necessary duty of considering questions of the character mentioned affecting the firm establishment and growth of international law.

Although the framers of the covenant did not see their way clear to provide for the immediate establishment of an international court, it is to be hoped and is confidently expected that after the conclusion of peace one of the first duties to be undertaken by the council will be the establishment of such court along the lines of the recommendation made at the second Hague Conference.

While the provisions of the covenant in this regard are not as complete as they might be, they offer great hope for the future, and it is clear that they impose no restraint upon the freedom of action of the United States. Therefore, any objection based upon this supposition is without foundation.

### b. *Recommendations of the Council or Assembly*

The covenant, although not really requiring the submission of any question to judicial decision or arbitration, does undertake to require the submission to the council or to the assembly of all questions not submitted to arbitration. The question, therefore, arises how far and under what circumstances will a nation be bound by the recommendation made by the council or assembly? There is no compulsion or restraint of any kind unless the decision is unanimous, excluding the parties to the dispute. If the recommendation is so made, the only compulsion which then rests upon the parties involved in the dispute is by virtue of their agreement that neither will go to war with the other, if it has complied with the recommendation. It is further provided that if either party refuses to comply "the council shall propose measures necessary to give effect to the recommendation." This last is obviously a mere statement that further proposals may be made by the council; there is no agreement by the parties to obey the recommendation and no agreement by the other league members that they will require them to do so. If there is no unanimous report, the only restraint upon the parties to the dispute is to await the proper time before beginning hostilities, if they are determined to use force.

It is this article, which has aroused so much discussion and so much opposition upon the supposition that it threatens serious nterference with questions of domestic policy or with foreign policies, such as the Monroe Doctrine. As to domestic policies the matter is dealt with by the amended article, which provides:

> If the dispute between the parties is claimed by one of them and is found by the council to arise out of a matter which by international law is solely within the domestic jurisdiction of that party the council shall so report and shall make no recommendation as to its settlement.

In case, therefore, a domestic question is involved in a dispute, such as, for example, the policy of a state regarding immigration, it will not be considered by the council if it finds the question to be one solely within the domestic jurisdiction of either party. This decision must be unanimous to be effective, but if not unanimous, and the council proceeded to consider the case, the member of the council who found that the question was of a domestic character, would undoubtedly refuse to agree to the recommendation as being beyond the jurisdiction of the council. It seems clear that if a question is one which can fairly be said to be of a domestic character, and if one member of the council finds that it is of such character, there will be no unanimous recommendation, and therefore no compulsion regarding that matter. It is therefore evident that there is no danger of domestic questions being interfered with under the terms of the amended covenant.

A clause is also included in the amended treaty which is intended to exclude cases involving the Monroe Doctrine from consideration by the council. This is in the form of a separate article, which reads as follows:

> Nothing in this covenant shall be deemed to affect the validity of international engagements such as treaties of arbitration or regional understandings like the Monroe Doctrine for securing the maintenance of peace.

If it be admitted that the covenant endangers the Monroe Doctrine, it must be confessed that the provisions of Article XXI do not clearly remove the danger. If it be assumed that the validity of the Monroe Doctrine is not affected by anything contained in the covenant, it does not necessarily follow that the doctrine would be recognized and enforced in all cases. For example, if Germany should undertake to acquire territory in the Western Hemisphere by purchase and the United States should object, a dispute would exist, to which the United States, Germany and the owner of the territory about to be acquired, would be parties. The United States would base its objections on the ground that the acquisition of the territory would be a violation of the Monroe Doctrine and a menace to its safety. The provision of Article XXI is not a clear statement that in such a case the validity of the Monroe Doctrine would be recognized and applied and a decision given against the acquisition of territory by Germany. The declaration that the validity of the Monroe Doctrine is not affected by the covenant is not quite the same thing as declaring it to be valid and enforceable; nor is the mere mention of it by name a sufficient determination as to its meaning. The decision might be that the Monroe Doctrine could not be considered to apply in the case in hand and that the general principles applicable to such cases would not permit a just objection by the United States on the ground that its safety was imperiled. The amendment proposed by Senator Root, whereby the acquisition of territory in the Western Hemisphere by European powers would be specifically prohibited, has the merit of greater clarity.

Laying aside the provisions of Article XXI, however, what danger is there of interference with the Monroe Doctrine? Under what circumstances can it reasonably be said that there is probability of a decision which would have the effect of interfering with or nullifying the Monroe Doctrine? A decision of the council, to be of any binding effect, must be unanimous, excluding the parties to the controversy. As the case can always be taken to the assembly, there must be in addition to a unanimous vote of the members of the council, a majority vote of the other members of the assembly. It is, of course, possible that all the members of the council and a majority of the assembly would agree to a recommendation which would have the effect of nullifying the Monroe Doctrine, notwithstanding the declaration of Article XXI that the validity of the Monroe Doctrine is not to be affected by the covenant. The probability of such a decision, however, is so remote that under all the circumstances it may reasonably be said to be negligible.

It has been argued, however, by some opponents of the league that no questions of general policy or involving the vital interests of the United States (and this would include questions affecting the Monroe Doctrine) should in any event be submitted to the council for examination. No precise effort has been made to define the class of cases meant, but it is broadly claimed that the United States should reserve to itself the right to determine all important questions of this kind and that it should not permit them even to be discussed by an international council. Strangely enough this argument has been advanced by persons who at the same time assert that they are in favor of *a* league of nations that would assist in preserving the peace of the world. It is apparent almost without discussion that a contract to submit questions to a court or council for examination, but reserving the right to refuse to submit an undefined class of cases involving the vital interests or important policies of the nations signing the contract would be of no binding force whatever. In the not-remote past general treaties of arbitration concluded between states generally reserved therefrom questions affecting the vital interests, independence or honor of the contracting parties. Such a treaty is of no binding force, as experience has shown. If a state does not wish to arbitrate it may escape the obligation of the contract by asserting that the question affects its honor, its vital interests or its independence. It would be quite useless to make any covenant at all if the states were to reserve from the consideration of the court or the council an undefined class of cases to be determined by themselves.

Admitting that there is a possibility that the council or assembly will in important cases affecting the vital interests of the United States make decisions unfavorable to the United States, the question is whether the United States should, under these circumstances, become a party to this covenant. On the one hand are to be considered the great advantages resulting from the institution of legal relations between states, with consequent greater security to the United States as well as to the other nations of the world. There are also to be considered the many advantages naturally flowing from this condition; greater freedom of commerce, the lessening of the burden of taxation incident to the maintenance of military establishments, and other matters of the same character. But even more important than these is the fact that the new order would go far toward removing the probability of war and establishing international relations on a basis of right.

As against these great advantages what is the danger to the United States? Only this—that there might be an interference with some policy or with some desired object, which, however, could only take place by a concurrence of the following circumstances:

1. That we should have a dispute with another nation which we could not settle by negotiation.

2. That after we had refused arbitration the case had been submitted to and examined by the council and by the assembly, and a report made, concurred in by all members of the council and a majority of the assembly, recommending a course of action unfavorable to the contention of the United States.

3. That this recommendation was satisfactory to our opponent in the dispute and that it complied with it.

4. That in order to maintain its policy, it would be necessary for the United States to take up arms against its opponent, which would be a violation of the covenant, and, therefore, the United States would find itself unable to do so because of its contract.

If the facts were such that the United States could still maintain its position without taking up arms, it would be under no obligation to obey the recommendation and there would be no interference with its rights—unless the other nations should, after consultation, decide to take steps to enforce the recommendation. This, by the very terms of the covenant, would require a further consideration and a further agreement, as there is no obligation in the covenant to do it.

The terms of the treaty in this regard have been thus analyzed to show how exceedingly remote is the probability that there would be any interference with any reasonable policy of the United States. It is improbable that any question would come up that we could not settle by negotiation, or if we could not settle, and refused to arbitrate, that a unanimous recommendation of the council would be made against us; or if by maintaining our position we could defeat the recommendation of the council, that measures would be undertaken to coerce us, especially in the absence of agreement to take this course.

But admitting that all these unlikely conditions might come to pass, should not the United States be willing to trust, to this extent at least, to the reasonableness and fair-mindedness of the representatives of the other nations of the world? It should be recollected that they will propose to put themselves in the same position as ourselves. They have many more policies likely to clash with the interests of other powers, than we have. They have interests to guard which are as sacred as our own. If they are willing, for the sake of greater security in the world and for the advancement of civilization, to agree to take the risk of the judgment of their fellows, under the circumstances indicated, we should be willing to do the same.

The idea of a league of nations is not new. We who live in Pennsylvania take a special pride in the fact that William Penn proposed a very similar association of nations in the pamphlet which he published in 1693. But a league embodied in a treaty seriously proposed to be signed by the principal powers of the world is new and a marvelous stride forward in the progress of civilization. Such a proposal always has its protagonists and its antagonists, and the present is no exception. There are those who hail it as a great event—which it is—and who are disposed to accept it without examination. There are those who oppose it as a most dangerous innovation, find nothing good in it, magnify the errors of draftsmanship and possible dangers, and even affect to believe that American independence is threatened. This is not the way to discuss a proposal of this kind. It should be examined carefully, but not hypercritically; sympathetically, but not with the determination to see nothing wrong in it. In a word, common sense should be used in the discussion over the League of Nations as well as over the more common affairs of life.

So examined, what do we find? For the first time in the history of the world the principal nations have put in the form of a document a proposal that they should combine together in the effort to preserve better order in the future and to avoid a repetition of the awful experience through which the world has just passed. Considering the number and character of the nations which have expressed a willingness so to combine, this of itself is an event of the first magnitude. No super-state is proposed, but a mere agreement among sovereign states in the interest of a better world for all of them. There is no proposal to take away their liberty of action, but to protect them in the natural and inherent right they now have to live their own lives and work out their national destinies without the constant menace and threat of attack which many of them have endured so long. The principal method proposed to accomplish this end, which all must approve, is a restraint upon all nations, forbidding them to fight until they have submitted their cause to examination and delay. No one can question the wisdom of this provision. No one can doubt the duty of the United States to join in it and be bound by it. It would be no restraint upon the United States, because we would always do this in any case, or we would belie our history. No one can doubt that the enforcement of examination and delay would greatly tend to prevent war. It might not always succeed, but the probabilities are that it would. It is highly improbable that any interference with the just policies of the United States would result. There are some defects in the covenant, but there is no great danger in it. When carefully analyzed, the dangers which loom so large when proclaimed from the public platform, either disappear altogether or become negligible in character. Even admitting their presence, they are not to be considered, as against the beneficent effect which the adoption of this covenant would have in lightening the burden of armaments and freeing the world from the scourge of war.

If this covenant as amended is accepted by the other powers negotiating at Paris, it is unthinkable that it should be rejected by the United States. The United States, throughout its entire history, has sought to be, and has been in a very real sense, the leader in the cause of peaceable international settlements. Not only has it shown a willingness to submit its cases to examination and decision, but it has urged this course upon others. The occasions upon which presidents and secretaries of state and other officers, and the Congress of the United States and the legislatures of the various states have urged upon the world the acceptance of the principle of arbitration of international disputes could scarcely be enumerated in this paper. If the country which has made such great profession in this great cause should refuse to follow where the military powers of Europe lead, it would be the darkest spot on her history.

But there is no danger that this will be the result. Even the most severe critics of the League of Nations are now prefacing their remarks by the statement that they are in favor of *a* league, and their prophecies of evil if this covenant is adopted, are becoming less and less insistent. The covenant in deference to the objections has been amended according to the best judgment of the men who are at Paris earnestly endeavoring to bring about a just and permanent peace, and the United States will not refuse its approval.

# America, the Nations and the League

By Hon. Thomas R. Marshall

Vice-President of the United States

ONE of the marvels to me has been the absolute inerrancy with which so many men in America were able immediately upon the receipt of the first draft for the proposed League of Nations to announce authoritatively what it would and would not do to the republic.

Having spent three and thirty of the best years of my life in the practice of the law, during which constitutional cases not infrequently arose, I ascertained that a century and a quarter after its adoption by the several states, the American Constitution presented many propositions about which strong arguments could be made on both sides. For six years, as presiding officer of the United States Senate, I have heard this same Constitution lauded and magnified, attacked and defended. Propositions prove to be clearly constitutional and equally unconstitutional until, in the larger, swifter movements of these epoch-making times, I have almost reached the conclusion that what one believes is constitutional and what one disbelieves is unconstitutional.

Without having made a public utterance upon this proposed league, I went to the Salt River Valley of Arizona where, far removed from the shouting and the tumult of the captains, I might bring to bear upon the subject such reason, patriotism and conscience as I possessed.

With those who are opposed to any league of nations, no difference what the terms of its covenant may be, I have no controversy nor do I care to charge them with impure and unpatriotic motives. Much that they say about the ancient glory of the republic appeals to me, both historically and racially. If among the hundred millions of people who now dwell under the supposedly protective folds of the American flag, there be aside from the Indian such a person, racially speaking, as an American citizen, then I am he. On both sides of my house, there does not course in our veins a single drop of blood which was not coursing in the veins of some man or some woman here in this western continent when Bunker Hill became the highest peak in political geography.

If mere selfishness were to guide my conduct, I would be one of the first to raise the cry, "America for Americans." I am one of the bare half-million of like lineage now living in this land. My blood having fought its way out of English domination under George III could never contemplate skulking back as a prodigal son under George V. And regardless of that sense of loyalty and that personal devotion which I bear to my chief, I would be a last-ditch man in the maintenance of American institutions if I thought or could be convinced that the proposed League of Nations was to make of America a mere appanage of the British Crown. I am, however, convinced that there is a vast deal of difference between going back a prodigal son and going back, as I believe, not as a weakling but as a controlling partner in a great movement looking toward the peace of the world. To say that because I have whipped a man I will never have anything to do with him save to whip him again is primitive. Men learn to forgive—nations should. To say that I will deal only with an ambitious man when he does what I want done is to announce anew the Germanic political philosophy.

I have been pointed to the advice of the Father of the Republic to beware of all entangling alliances with European nations. At first blush it seems to be conclusive of the subject, but the more I consider it the less potency it seems to have in present day affairs. It will not do to construe language other than in the light of the circumstances under which it was uttered. Somewhere in the numerous "Lives" of George Washington, I have read that a gentleman would ride nothing save a good saddle horse. This advice does not seem to have had any effect upon the manufacture, sale and use of motor cars. It must not be forgotten that when Washington uttered his advice the status for peace or war of each nation of Europe was fixed by a small and ruling class. If I were convinced from my reading that the politics of Europe now were the product of the policy of politicians and not of peoples, I should be willing blindly to follow his advice. It is quite easy to assert what a man whose lips are closed in death would say, yet I venture to state that Washington was so great a lover of peace and of democracy that if, without violation of our Constitution, he could today advise an alliance with the democratic peoples of the old world to preserve peace he would do so.

In the revised draft, the Monroe Doctrine has been taken care of. Agitation concerning it was a "tempest in a teapot." There were two conclusions drawn from the Monroe Doctrine, one of which was good for the American people and the other of which was bad. The conclusion that it was the doctrine of self-defense against the aggression of European nations on the western shore was good, but the doctrine conferring upon us a lordship or guardianship of our sister republics to the south was distinctly bad. It wounded the pride of these republics and instead of drawing them toward America it furnished reason for them to listen to the insidious wiles of European diplomacy. When all men pledge their honor to maintaining the integrity of the American republics, it is hardly needful for the United States to assume for itself the discharge of that duty.

This is not a question of what you and I wish were the case; it is a question of what is, and what we are going to do about it. Theoretically, I would quarantine against yellow-fever, but if I found the epidemic raging in America I would not rely upon the quarantine—I would treat the disease.

Stripped of explanatory verbiage and clarified as to non-legal phrases, the objects of the proposed league are to prevent war, promote peace, reduce armaments, control the sale of munitions, abrogate secret treaties, preserve territorial integrity from external aggression, and to help weak and struggling peoples toward the maintenance of democracies.

To attain these objects all disputes which the parties recognize as suitable and which are unsettleable by diplomacy shall be settled by arbitration and in time by a permanent court of international justice; nor shall the parties go to war over any other dispute until after arbitration or recommendation upon the subject.

Enforcement of decrees is to be had by severing financial, commercial and personal relations with the offending state and by recommendation as to actual physical force to be employed.

In the event of disputes, non-member states are to be invited to obey the rules of the league. If the dispute is between a member state and a non-member state, a refusal by the non-member state to obey the rules of the league constitutes an act of war, but as between non-member states subjects them to such action as the council shall deem necessary to avoid war.

Armament is to be fixed and not increased without permission, and private manufacture of munitions and their sale is to be controlled.

Provision is made for the recording of all treaties before they become effective and the league's power is pledged to the preservation of territorial integrity from external aggression.

I omit the mandatory clause because it is clearly optional and not compulsory, and the labor clause as being simply advisory.

This is in substance the original draft. One serious objection which I had to the original draft has been entirely removed in the revised draft by the inclusion of the right of a state to withdraw. This I think was necessary in accordance with the make-up of human nature. The seventeenth century could not fix the political status of the eighteenth, nor can the twentieth century definitely fix the political status of the twenty-first. The addition was advisable, not on account of objection to the terms of the league, but by reason of the inadvisability and impossibility of one generation speaking definitely as to what the next must do.

No one has yet shown me that there is a single word or sentence in the proposed league that is in derogation of our Constitution or that infringes upon the rights of the Congress of the United States. If there were a definite clause that bound the Congress and the United States to guaranty by force of arms the territorial integrity of any people it might be a valid objection. This objection, however, coming from those who with bland countenances voted to disregard our guarantee of the territorial rights of Columbia in the Panama Canal, does not convince me that the objectors are more patriotic than political in their zeal.

Among all the memorabilia of the war the most remarkable is the letter written by Von Bethmann-Hollweg in 1913. In the course of the letter he makes in substance this somewhat startling statement: "Force has never been able to maintain what force has won." Babylon, Nineveh, Troy, Rome, Berlin—all are covered with the ashes of destiny and defeat. More and more it becomes apparent that thought rules the world and that words and ideas are the only things that live forever. For the maintenance of stable government, it is needful that some men who advocate violence should be punished, because they are seeking only to impress their ideas by force. We should never forget that we cannot execute an idea nor imprison a thought.

Lover of the old-fashioned neutrality of the American people, I have sought to take a bird's-eye view of my country's history. Some men will be mean enough to say that it is a small bird and a small eye—nevertheless, 'tis mine.

Neutrality cannot be maintained successfully by a lack of resort to physical force. My next-door neighbor and his wife may spend their days and nights in family quarrels. So long as they are nothing to me and to my wife, so long as we do not seek to know the origin of their dispute nor to endeavor to ascertain the right and wrong of it, just so long we are neutral. But if she happens to be my cousin or he happens to be my wife's cousin, or without any relationship whatever we begin to inquire into the origin and right of the controversy, we are no longer neutral. We have developed a neighborhood quarrel.

Now it so happens that a majority of those who are vehemently attacking the proposed league of peace are the authors of that course of conduct which took the American people from their isolated position and set them down in the politics of the world. When we accumulated Hawaii, Porto Rico and the Philippines our quarantine clause ceased to work. Eliminating also the half million of so-called original Americans, we have opened our gates to every kindred, tribe and tongue on earth. I make no complaint. I have no protest as to their being here, but we were in the European war long before the declaration. We would not listen to our President to keep still about it. We were pro-ally or pro-German in less than a year.

It was inevitable that we should get into the war, for the very soul of America is an intense passion for peace and an intense hatred for wrong. Large numbers of those who are now opposing the League of Nations are the intellectual descendants of those men who characterized the Constitution of the United States as "a covenant with death" and "a league with hell," and who advised to let the erring sisters go in peace. But the soul of America would not let them go in peace.

Disguised as the issue was, it was not loss of territory which caused the destruction of slavery. The Spanish-American war was not over the sinking of the *Maine;* it was in the cause of human liberty in Cuba. Ostensibly we went to war with Germany for the sinking of the *Lusitania* and other outrages of the sea; in reality, the soul of America had demanded that the world be made safe for democracy.

League or no league, no grave crisis can arise anywhere around the world that this people will not seek to know the facts and to form an opinion upon them, and when their opinion is formed and expressed, the neutrality of the American people is gone. Had the American people had a cohesive thought upon this late war before it began, it is questionable whether it ever would have arisen; and if it had, it speedily would have ended.

I hope the United States will remain on the side of the Allies. I hope our people will always be trained to the idea of justice—not force—as the ruling power of the world. I hope they will ally themselves in some honorable way with like governments around the world so that everyone in America will cease to regret the loss of the German cause and that those who formerly believed in the German theory will begin to train their children in the principles of democracy. If we step back to our isolation we shall have two factions teaching contending theories of government in the country. I prefer to have only one faction and that faction teaching the cause of democracy and justice.

Just one more reason and I have done. I am for this League of Nations in the hope that, having made the world safe for democracy, we can now address ourselves to the task of making democracy safe for the world. He who seeks the peace of the world must compromise between his opinion and public opinion. He must remember Goethe's saying that no government is as bad as no government at all.

This startling thing called bolshevism is as great a menace to democracy as was the German military system. I do not accuse all men who advocate it as being bad men, but I do say they are mistaken men. All my life I have fought the efforts of business to run the machinery of government. I shall certainly raise my protest against the machinery of government being used for the doing of such business as a class of citizens may think ought to be done—all other business to be taboo or destroyed.

Bolshevism may come the world over, but it will be like the influenza—it may kill its millions, but sooner or later it will pass away. I beg the good men who believe in it to stop and consider. They might ordain that among the feathered tribe of the world only blackbirds should survive and they might exterminate all others, but in some far-off distant year their descendants on a bright October morning would hear the shrill cry of the quail or upon balmy nights listen to the throaty notes of the nightingale. If they are themselves fathers of children they need only look at their own families to realize that, much as they may believe in the political equality of mankind, they cannot produce a social, economic, intellectual and moral quality that will endure. The laws of evolution and the evolutions of God will in due season overrule. To meet this menace the less change there is in constituted authority the better for the world.

Briefly in conclusion, upon the subject of world predomination—if my view coincides with the facts of history—then ideas and aims, not arms or armament, shall rule the world. Take the history of your own, proud people. Read all its glorious past, and answer me—not as partisan, not alone as patriot, geographically speaking, but as a lover of humanity—do you doubt that if our aims continue to be as they have been that the American flag will drape the throne of the nations? That we shall rule the world with a rod of love and in our right hand carry gentle peace to silence envious tongues?

# In Defense of the League of Nations

By Hon. Gilbert M. Hitchcock
Committee on Foreign Relations, United States Senate

IT is a remarkable fact that during all the progress of civilization and the development of national life, the world has heretofore been organized for war. Every nation in the world has devoted a large share of its revenue and levied a large part of its taxes, not for the purpose of promoting the welfare of the people, not for the purpose of advancing their education, not for the purpose of developing the resources of the country, not for the purpose of improving the standard of living, but for the horrible purpose of making war on other countries, and in many cases seeking their conquest. Now, for the first time in the history of the world a serious effort is being made to do away with the old organization and in its place to establish an organization of the world for peace. For the first time also in the history of the world, the thought of every nation is directed to one issue; the thought of all countries is focused upon one great struggle. In times past one nation has had one great issue that it has busied itself with, and another a different one, but now fourteen nations at least have united on one purpose and have been actively engaged in negotiating with each other in Paris for the purpose of devising a means by which the world hereafter shall be insured international justice and world-wide peace. To me it is a glorious spectacle; to me it seems as though we, born in one age of the world, are to pass into another epoch and die in a better age. It seems to me that a new era has come to the world, just as much as when Christianity came, just as much as when the dark ages were swept away, just as much as when chivalry came into Europe to refine and advance the development of the people. We, who have lived in the past, have lived in an age of war. If this great enterprise now going on in Paris, under the leadership of the United States, succeeds, we are to pass into a new era of the world, which histories will record as a new era—the climax of civilization. It is an inspiring thought, and one which may well absorb the attention of the civilized world.

Probably less progress has been made in the last five hundred years in the direction of improving government than has been made in almost any of the other activities of the world. The world has advanced less in the devices of a national government, and certainly in the devices of international government. Take for example the advances in surgery, during our own day, that have revolutionized the science. Not long ago, surgical operations were performed without anesthetics. Formerly surgery was almost butchery; now it has become a great science.

The fastest method of transportation was once the horse, but transportation has been developed so that it has now become a lightning-like proceeding. First steam and then electricity, steam boats and railroad trains, automobiles and flying machines—an enormous advance, a perfect revolution in the methods of transportation. In the United States we have seen performed veritable miracles in manufacture. We have seen machines developed which have done the work of a hundred men. We have seen machines installed in factories which have enabled the factory instead of doing the work of a hundred men to do the work of ten thousand men. When I went into the newspaper business type was set by hand. The idea of setting type by machinery seemed like the art of flying—just a foolish figment of the imagination. Now type in newspapers is set by machines. Newspapers in all their departments have been revolutionized. The newspaper, instead of being a concern with an editor and a few writers, circulated among a constituency of a few thousand, now goes out to its hundreds of thousands and in some cases to its millions of subscribers almost before the ink is dry. It is not very long ago since men plowed fields with crooked sticks, but now agriculture is almost all done by machinery, and the United States with over a hundred million people is able not only to raise all its own food, but a large share of the food of the world as well. Science has been made the hand-maiden of agriculture. It is not long ago when the fastest communication was mail by railroad train. Then communication came by the Morse system of telegraphy. Next the telephone came in and now wireless telegraphy and the wireless telephone.

In other words, man seems to have made tremendous advances in all of the activities of life involving individual enterprise, but when it comes to government, up to the time of the outbreak of this war, nations were almost where they were centuries ago. Things have happened in this late war which would have shamed the savages of a thousand years ago. The question, therefore, arises whether we can now make a great advance in government. We made one great advance in government, when this Republic was founded. It has had a powerful influence all over the world. It has helped very largely to make the whole world democratic. The fight which our forefathers made for independence and for liberty, liberated England as well. The example which we set made the French Republic possible. Everywhere in the world today governments have come practically into the hands of the representatives of the people. Nevertheless, in our own country we have not altogether made government a success. City government in the United States today is almost a scandal. Taxation also is one of our great unsolved problems. The time has come when men may well turn their attention to reforming government.

But the great pending question is a reformation of the relations between governments. It is now proposed to organize the world for peace. I would not claim that this could have been done heretofore at any time in the history of the world. As long as there existed in the world great conquering empires controlled by autocrats the idea of a covenant between the nations to preserve peace was probably a vain hope. The world has been cursed with such empires, but when the war broke out in Europe practically only three of them remained. One was the Russian Empire, another the German Empire, and the third the Austro-Hungarian Empire. They were all controlled by autocrats practically having the power for war or peace. Conquest was their national aspiration. As long as they existed it was almost impossible to make a contract between the nations of the world to preserve peace. But those great empires have gone forever. What was once impossible has become possible and the democracies now controlling the world can just as easily make a covenant with each other to preserve the peace of the world, as people associated in any country can enter into such an arrangement. This can be done and it is done in the great document which has now been perfected in Paris. It is done without surrendering any part of the sovereignty of the United States or of any other nation that enters into it.

The League of Nations is not a government. It has no sovereign powers. It is a contract between sovereign powers in which they agree to do and not to do certain things under given circumstances. They promise each other when they enter into it that if a dispute arises between any members they will submit that dispute to arbitration, or if they do not submit it to arbitration they will submit it to an inquiry of the nine nations, composing the executive council, and during the period of arbitration or during the period of inquiry covering six months, they solemnly agree that they will not go to war and they further agree they will not go to war for at least three months after that time. So, no matter what the result of arbitration is, or what the result of inquiry is, the world is assured a cooling off period of nine months before there can be any possibility of war. That cooling off period will prevent nine tenths of the wars of the world. If the diplomats of Europe could have restrained Germany three days, this last war would not have occurred. If they could have restrained the German war-lords for three days Germany would have come to her senses and not gone into that war. The cooling off period of nine months gives the peace-loving sentiment of the countries opportunity to assert itself and come to the front. Nine-tenths of al the wars of the world have sprung, as this last war did, suddenly into operation. That cooling off period of nine months will practically wipe out nine-tenths of all wars. If, however, a nation violates that promise and goes to war within the nine months against another member, that act is an act of war against every member of the league and involves automatically that every other nation will at once dissolve commercial, financial and social relations with the offending nation and establish a boycott powerful enough to bring any nation to terms. There is not a nation in the world, except the United States, that could withstand a boycott of all the other nations. Germany was brought to time by a boycott of only a few nations, when she was still doing business with the neutral nations that adjoined her. Therefore, the penalty for breach being so severe, it is almost certain that the promise not to go to war for nine months will be kept and will do away with nine-tenths of the wars.

Another cause of war in the past has been the negotiating of secret treaties. The nations which enter this league agree that they will do away with secret treaties, that hereafter all treaties shall be open. That gives another assurance of peace.

The private manufacture of arms and ammunition for profit is yet another cause of war. That is put under the supervision of the League of Nations and is to be strictly limited. What has caused all the revolutions in South America and Central America? Profiteering in arms in the United States. How have the wars in the Balkans been supported? Because Germany, France and Great Britain and other nations of Europe have permitted their private manufacturers to sell arms and ammunition to those half-developed countries to carry on their wars. So the League of Nations in its organization seeks to prohibit those acts which have produced the wars of the past.

The League of Nations is not a government—it is a contract between governments, and who shall say that this contract, these promises, which these governments make to each other are not to be kept? The day is past when a nation will hold a treaty or a promise to be a scrap of paper. This war was fought to demonstrate that a treaty is not a scrap of paper, but is the solemn word of a nation and must be lived up to. As long as the nations which enter this League of Nations live up to the treaty which they make and the covenants which they sign, there cannot be any war, because the promises are so drawn that if kept they will make war virtually impossible.

Some amendments have been suggested, as was obviously necessary, to clarify the document, but they were really, with one exception, involved in the very terms and discussion of the document when it was drawn. It is a treaty. Therefore, any nation can withdraw from it at any time upon a reasonable notice, but in order to make it specific this amendment was inserted—that the notice should be a two-year notice. It is a covenant between coöperating nations and can only operate when the nations unanimously agree. Therefore, no nation can be out-voted to its own detriment. We have been told that the United States was going into a combine in which it was likely to be out-voted by the other nations and perhaps ruined, but when we realize that all the great decisions of the league, all the great decisions of the executive council, must be by agreement that is unanimous, we see there is no chance for the United States or any other nation to be out-voted. The league is built upon the theory of continuing good-will and common interest. It is built upon the theory that back of the men who represent the nations in the executive council are the people in all the nations. It is built upon the theory that the world has entered a new stage, and instead of being governed by force, it is going to be governed by public opinion.

Some of the criticisms of the league, in my opinion, have not been in good faith. It is not a partisan question. The great fight for it is led, and necessarily led, by the President of the United States. He has the backing of Congress. Congress, by a vote in both Houses, inserted in the Naval Appropriation Bill of 1917 an instruction to him at a proper time to call the various nations together in conference for the purpose of seeing whether or not it would not be possible to organize the world to provide international justice and peace. Again, it has the sanction of the country because the President, in the midst of the war in January, 1918, called the two Houses together in joint session and submitted to them his message, in which were included his fourteen points, and one of those points was the League of Nations; and the Senate and the House arose to their feet with applause when the President delivered that message, and the newspapers of the country, without regard to party, came forward and sounded their praises in most unqualified language. The great men of the country, the Republicans as well as Democrats, gave it their endorsement, and there was not a voice raised even in the Senate or the House against the League of Nations for eight months. When it went abroad it received the approval of our associate nations, and when Germany asked for an armistice she was told that the fourteen points constituted the frame-work of an armistice and of peace, and she accepted them. Great Britain and France and Italy and Japan gave those fourteen points their endorsement, and one of the fourteen points was the League of Nations. So, while the President of the United States is, as is necessary, leading the fight, it is the fight of America to secure a league of nations—not his personal fight alone. Great Republican leaders like William Howard Taft endorse the League of Nations. Our former President has brushed aside any possible political or partisan gain that he might get by embarrassing his successor. He waived his own preferences for his own particular plan of a league and courageously endorsed the league that the President of the United States had secured, by joint agreement, with the unanimous consent of fourteen nations. He has helped the President with suggestions, just as any friend of this league has done in this great emergency, and he is wiser in his day and generation than those little partisan members of his party who sought to secure a political issue out of the league. They hunted for some political gain that they could make out of it. They have sought to drag this great issue down into the mire of politics in the hope of getting a political issue out of it. The American people, like the civilized people of high aspirations in the other nations of the world, have made up their minds at least to try this great experiment. They have made up their minds that when the representatives of the greatest nations of the world come together in Paris and unanimously agree to a device to do away with war, they want to give their approval to it. They know that they may have different ideas, but it is this league or none. It is now or never. This is the great opportunity. If this is rejected, it may be ten, thirty, fifty years or longer before another opportunity will come to the world. Let us get it when we can. Let us ratify it as the Federal Constitution was adopted. Thirteen states in convention agreed upon a constitution. Enemies fought it in every one of the states. They wanted to amend it—they wanted to change it. Why? Because it did not suit any certain state. It was a compromise, just as this great document is a compromise, but it was adopted in spite of opposition and became the greatest governmental structure of the world. Of course, they have proceeded to amend it. That was an agreement from which the states could not retire. This is a document from which any nation can retire on two years' notice, and if it is amended so as to dissatisfy any nation, the nation can retire on that account. We go into this as an American idea. We go into this as an American proposal. We go into this as the crowning efforts of the American Republic to better the world, and if it does succeed, it will be to the glory of the American Republic that the world has finally adopted a method of establishing international justice and peace.

# Wanted: A League of Nations Likely to Promote Peace

By George Wharton Pepper, Esq.

Philadelphia

I AM in agreement with those who believe that the nations should set up an international council to promote conference and conciliation, to bring nations with divergent interests together around a council table under conditions which will tend to promote mutual confidence, remove misunderstanding and generate an atmosphere out of which peace may grow. I am heartily in favor of an international machinery of that sort. When in the course of the debates which must come in the Senate, and when we have before us the draft which was originally submitted to the Peace Conference by President Wilson and his fellow-commissioners, I venture the prediction that that document will be found to contemplate a council aimed at conference, at conciliation, at diplomatic approach, at publicity, at the abolition of secret treaties, at the multiplication of cooling off periods, and all the other things which are wholly good and admirable. I hazard the surmise that his original draft did not contain the provision which is central in the document that is under consideration by the country today, namely, the provision for a body which is not diplomatic, a council which is not a council of conciliation, but an international voting trust of nine nations dominated by five, in which there resides far-reaching political power. Such a voting trust of nine nations dominated by five, backed by force and holding political power in its hands, is far removed from the ideals which the President has proclaimed.

There is one provision in the Constitution of the United States which above all the others is the secret of its success. It is the provision that the judicial power of the United States shall be vested in one supreme court and in such other courts as Congress may from time to time establish. Suppose that the Constitution of the United States had provided that the judicial power of the United States should be vested in the Cabinet of the President. What success would have attended our constitutional experiment?

We have a great responsibility. We have to do the thinking on this subject; because unless we are impressed with the necessity of thinking the less thoughtful people of the country are not going to allow the Senate of the United States the time to give unhurried consideration to this document. The time to amend it is before we go in and not afterwards. While the Constitution of the United States can be amended by the action of Congress and of a certain percentage of the state legislatures, this document cannot be amended save by a majority vote of the many nations of the world which are going to be parties to it.

Under ordinary conditions, when commissioners come back from an international conference, bringing the product of their conference with them, they take it to the White House and lay it upon the table of the Chief Executive and he subjects it to calm and judicial review. He calls the Senate to his aid and asks their advice and between them they amend the document until, in their judgment, it is safe for the interests of the American people. I have no disposition to criticize the President in any respect whatever; but I wish to point out a single important fact. When Mr. President went abroad and became a commissioner, he did a thing which it may be was right, it may be was wrong, it may be was wise, it may be was unwise. I am not concerned with that. But when the commissioner comes back bringing the treaty and the constitution with him, he comes back from the superheated atmosphere of conference, committed to the document which he brings, with the pardonable pride of joint-authorship; and when the commissioner brings that document to the table in the White House he finds the chair of the Executive empty. There is nobody there to examine this document judicially and calmly; and, unless the Senate of the United States is called upon to give unhurried consideration to this document, the United States will be committed to it in spite of the safeguards of the Constitution of the United States. No man should be so much in earnest in his quest of a constitution for the world as to be willing to jeopardize the constitutional operations of his own government.

This is the greatest thing that is going to come before any of us in our time. Let us take it up calmly as a matter of constitutional analysis and see where we stand. I use an analogy to make plain the situation which is before the country today. If there were a case of great importance pending in one of the lower courts of the United States and the Chief Justice were to step down from the Supreme Bench and go into that subordinate tribunal, take the decision of the case out of the hands of the lower court, decide it himself, and hurry back to the Supreme Bench in time to hear the appeal from his own decision, you would feel that the judicial machinery of the United States was breaking down. And unless the President insists that the Senate of the United States shall have a calm and unhurried opportunity to consider this document, free from executive pressure or popular clamor, it will be precisely as if the Chief justice, having returned to the Bench in time to hear the appeal from his own decision, had refused to permit associate justices of the court to sit with him and participate in the deliberation. We cannot have a more serious constitutional situation confronting us. We are face to face with a civic responsibility which is just as great as any in the history of the United States.

My contention is that we have to amend this document before we adopt it, and we have to amend it in a number of vital particulars.

Among others, we have to amend it in respect to what I call the international voting trust which is stowed away in the body of this document in such fashion that nine nations, dominated by five, have the ultimate right of final decision, by a 7 to 2 vote, of every question—legal, political, quasi-legal and quasi-political—which can arise between any nations of the world and which one of the parties to the dispute does not choose to arbitrate. We are told that unanimity in that council is necessary to the giving of a final decision. But this is in plain violation of the express language of the document, which declares that decision shall be final when it is the unanimous decision of the nations represented in the council, excluding the parties to the controversy. Just as soon as you get rid of the principle of unanimity, and introduce the principle of majority and minority action, you transfer your device from the diplomatic conference region into the governmental area, and you set up a legislative machine which necessarily in deciding against the minority deprives the minority of its sovereign powers.

Moreover, it is provided that whenever either of the parties to an international dispute refers the dispute from the council to the assembly, the assembly's decision may be final. When it is unanimous? No. When it is unanimous but for the parties to the controversy? No. When it is unanimous but for the parties to the controversy as respects the nations represented in the council and then when it is backed by *a majority vote* in the assembly outside of the nations represented in the council. Take a practical illustration. A dispute arises between us and Great Britain. (Do not think for one minute that in using an illustration that concerns Great Britain I wish to appeal to what I regard as the ungrateful, unintelligent and perverse attitude of many of my fellow-citizens toward Great Britain; I am taking it merely as a definite, concrete case within the grasp of all of us.) If a dispute under this document arises respecting our protective policy, as to whether or not we are according equality of treatment to the commerce of all nations, what happens? It goes, if we do not arbitrate it, automatically to the council of nine. If one of the parties then refers it within fourteen days, it goes to the assembly. It is now before the assembly for decision. How is it going to be decided? You first poll the nine nations in the assembly who are represented in the council. You exclude the two parties to the dispute—Great Britain and the United States. If the seven vote one way on that proposition, you then poll the assembly. If a majority of the assembly votes with the seven members of the council, the disputants are bound by the decision. If the decision is adverse to the United States, we are bound. And I challenge a senator of the United States, or a chairman of a committee on foreign relations, or a vice-president, or a president, or anybody else, to answer the proposition that when you have set up in an international treaty a provision for the majority decision of international questions, you have set up a supergovernment. You have established a governmental body and you have bound the parties by covenant to abide by its decision. You may quibble about terms; but the substance of the thing is there. It jeopardizes the sovereignty of the United States. You poll the nine nations. Great Britain, were she not a party to the dispute, would have one vote, her Imperial vote in the council of nine; but, being a party, she does not vote. Seven votes are cast in her favor. Subtract the nine from the forty-five nations in the assembly and you get thirty-six, of which a majority would be nineteen. Great Britain starts with five votes toward her nineteen, because her self-governing colonies have five votes apart from the Imperial vote. If the issue were one in which the fourteen South American countries were favorable to the British view of that controversy, Great Britain's vote and the South American vote in the assembly would bind the United States. We covenant that we will not go to war against the successful disputant who submits to the conditions of the decree. You have then an international steam-roller which is going to be an engine for the political determination of the affairs of the world. It is not the thing which President Wilson dreamed of, not the thing he preached, and not the thing for which he contended. It is the work of subtle diplomats of the old world. It is a clever piece of political machinery designed perpetually to control international affairs. I know a voting trust when I see it. I have drawn them in my time. It is as clever a reorganization voting trust as you ever saw.

But its advocates blandly say, "Yes, but we have the right t withdraw." The right to withdraw from what? You have go hold of the tail of the bear and you have a right to let go! If it is going to be a steam-roller we have reserved the right to get out of it and stand in the track. It is always safer for the United States to be in this thing than out of it.

They say the Monroe Doctrine is safe-guarded. I could show you, if the time at my disposal permitted, that the greatest mess is made of the Monroe Doctrine in the 21st Article of this covenant that has ever been made by any body that has dealt with this subject.

With regard to the amendments which have been proposed, the most friendly and constructive were those which were proposed by Senator Root. They dealt with the things that are essential to the promotion of peace; and the Conference has rejected every one of the Root amendments. Every one was rejected by the Peace Conference, with the result that the three stumbling blocks in the way of promoting peace are perpetuated in this document. What are they?

The nations have always refused to set up a High Court and refer to it the questions of international law which must receive the consideration of a judicial tribunal if the world is to be ruled by law and right and not by might. Senator Root's amendment on that subject was rejected by the council.

The second thing which has always placed obstacles in the path of peace is the optional character of arbitration. Senator Root required by his amendment that the parties should be bound to submit to arbitration all justiciable questions—that is, the kind of questions that courts among us every day decide. And they rejected that. They prefer to send justiciable questions, the kind of questions the Supreme Court of the United States decides, to the international voting trust, which is an executive body, like the President's Cabinet.

The third obstacle in the way of peace has always been the refusal to limit armaments. Mr. Root pointed out that under this document there is no right on the part of the league to inspect the condition of munition manufacture in any nation and no right to verify the reports that the nation sends in; therefore he proposed an amendment that there should be a right to inspect the condition of munition manufacture and armament in each state and a right to verify the returns made by the state. And the Conference has turned that down.

The three things which have always stood in the path of peace up to this time are right there—writ large in the body of this document which we are asked to accept; and in the center of it is the voting trust proposition which gives political power to a small group of dominant nations not acting on principles of conciliation and conference, but just exactly as voting trustees act under similar circumstances.

With regard to Article 10, which is the blanket guarantee of territorial integrity and political independence of the nations of the world as against external aggression—that stands just precisely as it stood in the original draft. It is the provision by virtue of which, if we take our obligations seriously, the United States will be involved in every war in the future without an opportunity to determine on which side she will fight. I am not opposed to the United States giving all the guarantees that are needed to make the peace which shall be expressed in the Treaty of Peace firm, permanent and secure. I am in favor of having the United States back, with men and money, every specific guarantee which is necessary to make the peace treaty effective, and the settlements under the treaty reasonably permanent. But I am absolutely unwilling to stand by and see the United States, without protest, sign its name to a guarantee which is blank respecting the obligation, leaving it to the future history of the world to fill in the body of that obligation. This thing must be amended. It must be amended carefully. It must be amended wisely. It must be amended radically. Unless we see to it that our representatives in the Senate have the unhurried and unpressed opportunity to do that thing, we shall be defaulters to our civic responsibility.

# Peace and Democracy

By HON. SAMUEL W. MCCALL

Formerly Governor of Massachusetts

WE have been side by side with the most civilized nations of the world in the most colossal struggle, in the most deadly war of all history, in a war that has been more expensive probably than all the previous wars that have ever taken place. It is clearly our duty to do all in our power to prevent any repetition of such a tragedy. That is the plain duty before us; and how are we going to perform it?

Are we to have a league of nations, a concert of nations, compacted together to wage war against war? I believe in a league of nations. It does not follow that I believe in any league of nations, but something of the sort we must have. I believe in debate. The Constitution of the United States was adopted after a long debate by the ablest men in America. It then went to the conventions in the thirteen states, where it was again debated. It was finally adopted, but it was adopted with very radical amendments, which are now a part of the document. That debate gave us a better Constitution. The formation of a league of nations is too vital a question to be settled without discussion. I think that the speech for instance made by Senator Philander Knox of Pennsylvania was the most illuminating speech that has been made upon the covenant, and if more such speeches can be made in the Senate I trust they will be made. If amendments are needed to improve the league they should be made. Undoubtedly the men in Paris have profoundly considered the covenant of the league, but they have not put it in the crucible of debate. There may be some question whether that part of the covenant relating to the Monroe Doctrine, in the form in which it now appears, should be sanctioned. The Monroe Doctrine does not mean simply the guarantee by the United States of the territorial boundaries of the other countries upon this hemisphere. That view overlooks entirely the essential political character of the doctrine. Mr. Olney contended that it contemplated a struggle between monarchical institutions and free government. President Monroe and John

Quincy Adams put it forth as necessary to our peace and safety that the governmental systems of Europe should not be extended upon this continent. If it is necessary to safeguard the Monroe Doctrine then an amendment should be adopted. But I doubt very much whether it is wise for us to guarantee the territorial boundaries of all the nations of the world, so that we may have a static world. Much of the advance in civilization has come from the shifting of the boundary lines of nations.

The paramount thing is that the covenant is aimed against war. We do not seem to comprehend just what war is. We are apt to regard it as a struggle in the abstract between nations, and we do not get beneath the surface. War, in effect, means the offering up of boys in what is called the cause of their country. In our Civil war, of 2,800,000 enlistments more than 2,100,000 were of boys of twenty-one years old and under. It was the same in ancient times. After a great war in Athens, Pericles said, "The youth perished from the city like the Spring from the year," and Plato said that war is a monster that lies in wait upon the rich meadow land of generous youth. So it has always been. Uncounted millions of boys have been offered up—and for what? In this war nearly 10,000,000 boys of the different nations of the world have gone to their destruction. Those young spirits were beating at the dawn of their careers eager to run their race and they were cut off in a war which they did not initiate. We want to put an end to the system that is likely every fifty years or a hundred years to require the offering up of 5,000,000 or 10,000,000 of the flower of the youth of the race. It is said that men are going to do what they always have done and that we must remain in servitude to the old system of war. But cannibalism has gone. Slavery has followed cannibalism, and it seems to be an indictment of the statesmanship as well as the humanity of the world if we shall permit this system involving the destruction of the young men of the world to continue. Therefore, the League of Nations as a whole is admirably devised.

There is somewhere in Paris or Versailles a painting of Louis XIV who was all his life engaged in war. He is covered with armor and is seated upon a war horse. The picture bears the title "Louis the XIV. Bringing Peace to Europe." Happily the head of the American nation is really attempting to bring peace, not merely to Europe but to the world, and he is appearing in no such spectacular and hypocritical attitude. We want to adopt some sort of an organization in this present moment to preserve the peace of the world. The whole world is ripe for it. The philosophers of the world, and its poets for the last fifty years have been writing about it. There is a public spirit abroad that demands it.

We cannot establish forms of government in the different nations, however much we might like to have this country or that a republic. Each nation must adopt its own form of government or that government will not stand.

Two years ago when President Wilson spoke of making the world safe for democracy, I suggested that democracy also should be made safe for the world. I did not intend to criticize what the President had said, but I thought that the two ideas should go together. Democracy is not a timid weakling. It is not a violet, something that is crushed by a breath, but it is a great, strong creature with all the power of the combined units of the race and it can take anything that it wants. Therefore, the problem is to make democracy safe for the world, and in order to do that we must endow it with the necessary organs. We must give to this formless mass organization and the opportunity to develop a considered opinion so that it can be delivered from wild leadership that will lead it to quick and violent action and make it in effect an undisciplined mob. We have seen in Russia and other countries some of the things that are done in the name of democracy but which are a disgrace to it—the wicked crimes that have been committed in the name of democracy. The primal thing in government is to have the world established upon such a democratic basis that this basis shall permit a real expression of the will of the people, and everywhere the protection of every man in his rights. This was the aim of our Constitution.

We have something to do in this country with reference to the organization of peace in our own internal affairs. In a time of war nearly everybody who has a hobby gets it out and rides it. We have had things done at Washington by the central government that were unnecessary infringements upon the individual liberties of the men and women of this country. Let them be charged to the war. But now that it is over, let the American people resume their liberties. Let us get back to the old paths of an ordered liberty. Let us have restored again the right of the American citizen to stand on his feet. Let us secure him in the results of his enterprise and industry. Let us encourage him to do those innocent things, which have been done in the past and which have resulted in making us a great nation.

In the international organization of peace we want our League of Nations. We want it solidly established. We want it to go into force and have effect upon any great crisis that may come among the nations of the future. As to our own country, in the national organization of peace, we want to establish ourselves upon that rock of American liberty which has distinguished us in the past, and which has made us an example to all the nations of the world.

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## A PARTNERSHIP OF IDEALISM AND COMMON SENSE

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# FOREWORD

## THE PROBLEM OF THE AMERICAN MANUFACTURER

"Produce or perish!" This is the terse slogan with which M. Herriot the distinguished Mayor of Lyons in a recent book entitled *Creer* seeks to arouse the young men of France. A world in which tool power has become the deciding factor can hardly fail to appreciate the significance of this appeal to a nation exhausted by a well-nigh fatal struggle for its existence, and now faced with the necessity for a complete rehabilitation of its economic and industrial procedures. But it is not so certain, however, that we in this country will see in Herriot's words an immediate national challenge which we cannot afford to ignore.

True we have become strong and great, but in doing so we have expended our national resources with a shocking prodigality. Immediate gains and profits have almost exclusively held our attention. We have dubbed as dreamers and theorists and "impractical fellows," those who would have called a halt to the mad orgy through which our streams have been polluted, our forests and mines wasted, and our political life debauched. We have attacked with an especial vindictiveness those who sought to ameliorate an industrial system which made little pretense at conserving human values. God, the pity of it! We have preached the doctrine of a power through our inheritance rather than through our own exertion and travail.

As a nation we had come to feel so keenly the reproach in all this that we actually welcomed the chastening afforded by the war. Even today we hear the question asked as to whether all the precious toll of suffering and sacrifice was enough. Are we as a people now ready to alter the very foundations of our social structure if this be necessary to right admitted wrongs? Are we really convinced that the employer and those he employs can and must whole heartedly coöperate to effect great social advantages? Do we really believe that the aims of labor and capital are mutual if not identical? Do we actually believe in affording an equal opportunity to every citizen and in the elimination of every special privilege?

For unless this nation is ready to scheme out its industry along radically new lines, and to accomplish ultimate rather than immediate rewards, it will be only a question of time until we are overtaken by those who may perhaps seem pitifully weak and disorganized today. And no present financial strength or volume of natural resources will materially affect the outcome. Modern industry is too fearsome a thing to be hedged in either by small men or narrow laws. This is not only a scientific age but a day when the value of coöperation is being demonstrated on an ever broadening international scale. The industry of the future will be grounded altogether on mutuality of interests. Force as a dominant factor is dead. Science will unlock her secret vaults only as fast as we have the initiative to ask questions and the imagination to press for answers. Herein lies the real power of the future. The supply is limitless. And the wealth of one man or of one nation under this dispensation will not mean another's undoing.

Only a little while back the workers could conscientiously, and actually did, hold back on production. "Soldiering" on an essentially international basis was practiced pending the time when labor could measurably control the division of the proceeds of a more efficient industry. But the new balance as between the employers of the world and their employes which has resulted from the war has so altered this situation that in every direction we see indications that the workers of the world—organized or unorganized—are coming to feel some measure of responsibility for production and are manifesting an increasing interest in the principles and mechanisms through which production may be increased. We need constantly to remind ourselves, however, that the employing class has been guilty of many varieties of sabotage as, for instance, when consciously placing in executive positions those not fitted properly to carry on their functions. If the employers under the new dispensation are to have a right to call on their employes for full performance, the latter certainly have the right to demand competent leadership. The day does not appear to be far distant when this right will be exerted.

One of the most outspoken recent utterances on behalf of increasing production coming from the ranks of labor was the speech of Hon. Wm. B. Wilson, Secretary of Labor, delivered at the Atlantic City Convention of the American Federation of

Labor, in the course of which he said, "Production, increased production, is the predominant question. The more there is produced the more there will be to distribute and the larger production is to the interest of the workers as well as the employer." Of course, the leaders of labor now quite generally realize that the working day has been reduced to the point where it will be increasingly difficult to make further reductions without a distinct loss in output. In cutting the work day from twelve hours to eleven this was not the factor that it will be in cutting the day from eight hours to seven. In future cuts the output must be safeguarded in new ways.

It is just as well to face the fact that to increase production in any given establishment, industry or nation (as the term production is here used) is never an easy task. Above all it is not a matter controlled by blanks or forms, nor does it result from "stunts"—even those suggested by "efficiency" experts. We in America have in recent years more and more come to the conclusion that important progress can be made in this direction only as the result of years of sustained effort. This effort must be expended very largely by those directly connected with the business. The burden of the responsibility for the making of progress in any industrial enterprise will always rest on those who call the enterprise their own, either as leaders or as workers in the ranks. Without regard to the amount of outside advice and no matter how competent this advice may be, this is still true.

As a matter of fact the making of progress along production lines generally results from a change in mental attitude on the part of those concerned. If we can once get the idea that industry and industrial methods are not static but are subject to constant improvement and growth, great progress will necessarily result simply from this attitude of mind.

American manufacturers appear to be quite aware that industry will not be conducted in the future altogether as it has been in the past—that this is a period of shifting and advancing standards. And as a class our manufacturers seek to know more of the opportunities which open out before them and to assume their newer responsibilities. In fact this volume is in itself a distinct recognition of an awakening in our industrial world.

The effort is here made to give expression to some of these newer ideas, which developed and logically put into practice will so vitalize American industry as to give it a status in the world's industrial development comparable to the position occupied by American ideals in the science of government.

The volume of industrial literature has increased tremendously in recent years. The practical man of affairs who would post himself on even recent developments in this industrial field must be prepared to devote more time to it than can usually be spared from the pressing demands of the day's work. Recognizing this condition we have sought to separate an industrial enterprise into a few of its essential and more important divisions and to have each of these treated in an authoritative manner.

As a first step in the determination of what really are the significant factors in industry we requested from a considerable number of people—labor leaders, industrial engineers, manufacturers, economists and others—a short statement which should include the more important points of an individual manufacturing establishment. From among the twenty-five opinions received perhaps the two which follow are typical. A prominent New England manufacturer who has been associated as director with a number of large scale enterprises, for instance, said:

> An ideal manufacturing plant assumes the presence of business ability, sound organization, and leadership with vision.
>
> Its ultimate purpose should be the highest development, mental and moral and spiritual, of each and every person connected with the organization, through the accomplishment by that organization of the social function entrusted to it in the most perfect possible way.
>
> This purpose should manifest itself in:—
>
> 1. Healthy and happy working and living conditions.
> 2. A wage which is better than a living wage.
> 3. Methods which shall result in the conviction throughout the organization that the interests of the workmen and the company are in fact identical.
> 4. Recognition of the fact that the power of the people, and human leadership are the two great social forces today, and a fixed determination that they shall in the organization so combine as to produce a workable and constructive democracy.

The idealism upon which this description rests permeated practically every statement received. It is worthy of note that financial considerations were subordinated. The opinion was everywhere implied, even where not expressed, that if the other factors were right—such as the matter of industrial relations, for instance—that the finances would be apt to take care of themselves. The following description of a standard industrial plant—the best obtainable under present day conditions—came from an engineer:

> Its buildings should be designed for economy of operation, surrounded by ample, well-kept grounds, and located in an open section of a community of moderate size, having both good government and good schools, adequate transportation facilities, convenient supplies of raw materials and reasonable accessibility to markets.
>
> The employees perhaps evenly divided between the two sexes, and all American citizens able to speak English, should be well housed, receive high wages—in every instance above the cost of living; work not more than forty-eight hours a week with half holiday on Saturday and a full holiday on Sunday, and [illegible]er adequate rest periods especially for arduous, monotonous work; "hired and fired" by a centralized employment department; surrounded by working conditions, providing both comfort and sanitation; and afforded every opportunity for collective bargaining.
>
> The main object of the management should be to secure the greatest possible production compatible with the highest well-being of the workers. The means to this end will be modern equipment and Scientific Management, involving an intensive study of every process, the selection and training of the workers and such organization of the workers as will insure maintenance of standard practice. Both a low labor turnover and the assurance of continuous employment are essential.
>
> The selling policy should provide for full and fair description of goods with prices based on cost plus the smallest margin of profit consistent with continued prosperity—costs to be determined by a system in which approximate allocations of overhead are reduced to a minimum. Sales in an unnatural market and of useless articles are to be discouraged.
>
> The property interests must assure responsibility for providing adequate capital to be represented by bonds and cumulative preferred stock having proper relation to fair value and bearing reasonable interest rates and should accept the theory that unproductive capital is not entitled to a return any more than idle labor is entitled to a wage. Before declaring a dividend on the common stock, some fair provision should be made for sharing the prosperity with the employees who should be represented on a board of directors on which as many different factors in industry are represented as possible. Employees should be given every opportunity to buy the various classes of securities of the corporation.
>
> Publicity—full and relentless—as to costs, wages, earnings and everything else.

When Professor Walter Dill Scott and his associates on the Committee on Personnel of the Army came to rate army officers on a scale of one hundred it was discovered that an occasional man was rated as high as eighty-five and some men who were kept in the army fell as low as forty. But the great body of officers (perhaps eighty-five per cent of them) fell between fifty-eight and sixty-three. It may be stated that in some such fashion the papers in this volume represent the great central body of dependable, present day, industrial thought. These may be said to be the fifty-eight to sixty-three ideas and plans. The authors chosen have been those who, while fully abreast of the times and sympathetic with progress still see virtue in seeking to keep both feet on the ground. The "stand pat" conservative as well as the ultra radical are neither of them represented. But we have not flinched from new ideas even though they may seem radical to some. The thoughts expressed seem to the editor to repres[illegible] good average American doctrine. The effort has been made [illegible] present papers which describe present day actual practice rath[illegible] than theorize about even the immediate future.

It is entirely possible that to some of our more advanced readers a considerable part of the material may seem almost trite. This must necessarily be true of a volume intended to be a compendium of the best that *is* rather than of what perhaps some day *will be*. Again the reader is reminded that while we have tried to run the whole scale of American industry to see it in the large—no effort has been made to treat any part in a detailed way. If the book is broadly suggestive it will have accomplished its purpose.

A good deal of space has naturally been given not only to the organization of the workers but to the causes back of this organization. If a manufacturer is to be efficient in this new day—in fact if he is to survive—he "must understand the forces which he at times conceives of as blindly opposing him." In a word he must comprehend the whole social atmosphere of the times. The day has gone by when an individual or a plant or a nation can live unto itself alone. This being so, prudence suggests the most intimate possible knowledge of our local, national and world environment.

It is not altogether by accident that over half of those who have contributed to this book have first hand knowledge of Scientific Management gained through personal association with the late Frederick W. Taylor, or else admit that their industrial views have been largely influenced by his teachings. Taylor is the only industrial technician who has proposed anything approximating an adequate philosophy for industry. And fortunately for him and his place in industrial history his theories and practices square with our present day idealism. A recent correspondent somewhat familiar with the plans for this volume writes:

> It may be too much to say that the philosophy of industry, set forth from a dozen angles by as many writers, which goes to make up the contents of this book forms a bulwark against bolshevism and an antidote to anarchy; but, there would seem to be some justice for the belief that in the Taylor System is to be found a sane, enlightened and just solution for the world-old struggle between capital and labor.
>
> You will have to go back a long way to find out who established the Taylor System. A long while ago an obscure carpenter, of a despised race, set himself to teach his people a new system of doing business. The leaders of his people had for years preached an austere and hard system of justice and vengeance. They believed in an eye for an eye and a tooth for a tooth. This Hebrew carpenter went up on a mountain, with a handful of followers, and laid down a new plan for doing business, and it has been working better every year for the 1900 years since he made it, and each year more people believe in it. There isn't a big success in the world today that isn't based on it. All that Frederick Winslow Taylor, one of the greatest engineers who ever lived, did in his life time of effort was to translate into a practical, profitable, working formula, the Sermon on the Mount.
>
> We must remember that there must be four parties to every business transaction that can be permanently successful and each of these parties must be benefited if the system is to last. First, it must benefit the investor who risks his capital in the enterprise; second, it must benefit the worker who contributes his work to the enterprise; third, it must benefit the manager who takes the responsibility of directing the enterprise; and fourth, which is equally important if not most important of all, it must benefit the consumer who patronizes the enterprise. Not one of these four can get along without the other three and none of the four can continue to make a profit and get satisfaction if the others do not benefit.
>
> A careful study of the underlying philosophy of the Taylor System demonstrates that the real basis of its success lies in the fact that business under this system is conducted with the cards on the table, face up, and that each party to the transaction is made to realize not only his rights but his responsibilities as well. It does not mean that capital will make less money because labor is going to get more. It means that when labor and management are thoroughly convinced of the value of giving their best in return for a wholly adequate

reward, the reward of labor, management and capital is going to grow larger and larger and the consumer is going to be benefited by better values for every step that is made of progress.

Just a final point remember this: The very best and finest thing about the sermon of the Hebrew carpenter is that it pays. It is right, because it pays, and it pays because it is right.

Fear as to what may be just ahead of us may easily be one motivating force in securing from our manufacturers a more attentive hearing for suggestions looking toward improvements in industry. But on the whole, I believe that present day progress results from American idealism once again seeking new forms of expression. We hear it said that bolshevism lends itself to an emotional appeal; hence its rapid spread. Industrial progress along sane lines can likewise be so presented as to appeal to both head and heart. To make this appeal effective is the duty of the hour.

The following paragraphs are quoted from a recent repor[illegible] the Special Legislative Committee on Reconstruction of [illegible] Wisconsin Legislature:

> The heart of the world has been touched more deeply than it has ever bee[illegible] touched before in our time. The world is full of hope. The sentiment of th[illegible] world is for better things. The social and economic reconstruction is an effort to satisfy this feeling and this longing of the world. It is a serious effort to make the world a better place to live in. There are some social facts which we have accepted as inevitable, which the new hope in the world cries out against with an insistent demand for immediate change.
>
> Any reconstruction movement should be based on the nineteen century old doctrine that "men are brothers." There must be a more thorough-going application of the Christian ethics to social and economic policy. That is the road to sanity; that is the road to sound reconstruction; that is progress.

The purpose of this book is to assist in the execution of such a program. We believe that the further progress of American industry will be in the direction of providing for all workers an environment in which they can grow and in recognizing their right to share in every determination affecting their work.

Granted such conditions we must all struggle to produce the maximum consistent with the maintenance of physical, mental and moral well-being. Thus may we hope to secure a further realization of American purpose and American idealism.

MORRIS LLEWELLYN COOKE.

# Who is Who Among Contributors

NIEL M. BATES, General Manager, Lewiston Bleachery and Dye Works, ton, Me., is one of a younger group of industrial managers who may be be the joint product of a modern engineering education and technical in the Scientific Management school. After being graduated from the usetts Institute of Technology he entered the employ of the John 's Sons Co., Wilmington, Del., and there gained the experience which lified him for his present post. During the war he served as a major in the e Corps taking part in organizing several different divisions of its work. ame Ordnance Officer of the 14th division.

Bates may be classified as a conservative progressive. He is of the l type of manager who sees just as much chance for improvement in ont office as in the shop.

ORGE L. BELL, Impartial Chairman of Industrial Relations of the Men's and s' Clothing Industry of New York City (representing both employers and ployes), was during 1914–1918 attorney and executive officer State Commission Immigration and Housing of California. He is a graduate of the University f California and Harvard Law School. During the war he was Executive Secretary of the War Labor Policies Board. He has been active during the past few years in the campaign to stabilize conditions and to promote efficiency in the several branches of the clothing industry. It is to men of Mr. Bell's education, training and attitude that Industrial America looks for leadership.

JAMES M. BOYLE, Consulting Engineer, associated with Sanderson & Porter, New York, is Vice-President of the Fairmont Mining Machinery Company, Vice-President of the West Virginia Metal Products Corporation and advisory engineer to the President of the Consolidation Coal Company. He has had an extensive experience in the municipal utility field. His war record included the development of a very ingenious plan for anti-aircraft gunnery.

D. A. BROWN, President of the Consumers Ice Co., Detroit, Michigan, is a broad-gauge business man who takes an interest in civic affairs. For many years he has seen questions affecting the relations of capital and labor as the inner heart of the industrial problem. Very soon after Mr. Brown became the head of the company enjoying a monopoly of the ice distributing function in Detroit he instituted a policy of allowing the "men" a share in the management. The "workers" now have eight of the fifteen who sit on the Board of Directors.

JOHN M. BRUCE, Vice-President and General Sales Director, Remington Typewriter Co., has had an extensive experience in the organization and operation of large-scale sales forces. Among the companies with which he has been associated are the American Tobacco Co., the Beechnut Packing Co., Libby, McNeill & Libby and the Winchester Repeating Arms Co.

Mr. Bruce has specialized in the study of Scientific Management and its application to the problems of distribution. His attitude toward the salesman and his job is in some respects revolutionary.

WALTER S. CARPENTER, JR., Vice-President of E. I. du Pont de Nemours & Company in charge of the work of its Development Department, has had a number of years' experience in the investigation of problems dealing with the advancement of that company's interests. He left Cornell University and joined the company in 1909. He spent nearly a year as an assistant in the Resident Engineer's office at two of the company's plants. He spent the next two years in Chile, where the company has large interests in the nitrate fields and later spent some time in Europe investigating business problems for the com [illegible]

For the next seven years he was a member of the staff of the Deve [illegible] Department, becoming in time Assistant Director, Director and Vice-P [illegible] in charge. During his term of service he was in constant contact w [illegible] numerous business problems, the solution of which helped the company to [illegible] tain its position as a manufacturer of munitions and to undertake an enl [illegible] peace-time commercial business.

JOHN J. KERR CASKIE, prior to assuming his present position as Execut [illegible] Assistant to the President and Chairman of the Philadelphia Rapid Tran [illegible] Company, was a practicing attorney in New York City, and for five years wa [illegible] with the Interboro Rapid Transit Company and its affiliated companies, particularly engaged in valuation, franchise and tax matters. He resigned his position to go to the National War Labor Board and was Examiner in a number of matters before that body. Among the matters assigned to him was that of the Philadelphia Rapid Transit Company.

Mr. Caskie, before he was admitted to the Bar, spent a number of years as newspaper reporter, ranchman and in general business in the new Republic of Mexico where he made a special study of Latin-American relations. After leaving Mexico he spent three years at work in the libraries of the universities of Europe before he came back to New York to be admitted to the Bar.

At various times he has worked as a miner, cowboy and factory hand.

B. PRESTON CLARK, Boston, Mass., is Vice-President of the Plymouth Cordage Co. and a member Executive Committee of the U. S. Smelting Refining and Mining Co. After graduating from Amherst he worked in a cordage mill and eventually took charge of the binder and twine mills owned by the McCormick Harvesting Co. and acted as their buyer for many years. He retired as Executive Manager in 1903. Mr. Clark takes a deep and effective interest in the social developments of the times. He had taken an active part in social work in Boston for over forty years.

JOSEPH E. COHEN, born in Baltimore, 1882, received a common school education, and was graduated from Central High School and Philadelphia School of Industrial Arts. He became a compositor by occupation and has been a member of the Typographical Union since 1902. He has been active in its proceedings; likewise in those of the Socialist Party—belonging to the moderate wing;

several times delegate to its state and national conventions, serving as Chairman of Resolutions Committee. He was made a member of the Philadelphia Mayor's Food Commission in 1917 and Chairman of the Joint Legislative Committee for Labor Legislation in Pennsylvania in 1919.

Mr. Cohen is the type of labor leader who is today furnishing more of a philosophical background to the American labor movement.

HOWARD COONLEY, President, Walworth Manufacturing Co., Boston, Mass., is also President and director of the Coonley Manufacturing Co., Cicero, Ill.; a director of the Advance Rumely Co., La Porte, Ind.; of B. F. Avery & Son, Louisville, Ky.; Link-Belt Co., Chicago, Indianapolis and Philadelphia; the Rivett Leather & Grinder Co., Faneuil, Mass.; and the Second National Bank of Boston. He is a member of the Executive Committee of the Associated Industries of Massachusetts and a director of the Boston Chamber of Commerce.

During the war Mr. Coonley attained a national reputation as an organizer hrough the work done for the Emergency Fleet Corporation of the U. S. Ship-ing Board as Vice-President in charge of administration. Among other duties e had charge of the finances involved in operating our 200 shipyards and the ated industrial establishments.

Well-balanced, cultivated, of genial approach, Mr. Coonley is a man who gains ends quite as much through a quick establishment of confidence as by his iet force and ability.

WILLIAM B. DICKSON, Chairman of the Board and Vice-President of the Midvale Steel and Ordnance Co., began his career as a manual worker in the Homestead Steel Works. He became one of Carnegie's "junior partners" and was active in the management of the U. S. Steel Corporation during its first decades. The years 1911–1915 were spent in retirement on a New Hampshire farm. Called into active service by the war, he is given the principal credit for causing the Midvale Company to abandon its well recognized and long continued opposition to the organization of its workers. The system adopted—falling in the class of company unions—is described in Mr. Wilson's paper.

A. LINCOLN FILENE is by calling a merchant and acts as Treasurer and General Manager of William Filene Sons Co., Boston. He brings to bear so much idealism and imagination on the day's work that one is tempted to call him a super-merchant. He has given much attention to welfare and education of his employes through a coöperative association. He is also a member of the Board of Managers National Society for Promotion of Industrial Education, of the Massachusetts State Board of Education, of the executive board Bureau Vocational Guidance of Harvard University, of the Executive Board and Board Managers N. E. A., the Vocational Education Com. N. E. A., and Advisory Com. Boston High School of Commerce; of the Overseers Com. for div. of edn. at Harvard College; and chairman of the daylight saving movement Chamber Commerce U. S. A., Boston Chamber of Commerce.

HENRY L. GANTT, Consulting Engineer, has, since 1887, when he joined the staff of the late Frederick W. Taylor, been active in developing the art of management.

He recognized long ago, the ineffectiveness of the "efficiency" of the workman as a cure-all, and has since devoted the major part of his efforts to producing harmonious coöperation between employer and employe. His article in this volume represents the results of his latest efforts.

In connection with Mr. Taylor, he worked for the Midvale Steel Company, and the Bethlehem Steel Company. Subsequently he was connected with numerous large concerns; today he is connected with the Ingersoll-Rand Co., the J. H. Williams Drop Forge Co., and others.

This country may properly take great satisfaction in having produced engineers of industry whose leadership is recognized the world over. Among these guides to the new industrial day Mr. Gantt stands in the very fore-front.

HOLLIS GODFREY, LL.D., Eng.D., President, Drexel Institute, Philadelphia, is an engineer and educator who attacks the problems of industry with energy, conspicuous ability and unusual versatility. Dr. Godfrey has first hand knowledge of industrial processes through having worked through both a machine shop and a paper mill. He was associated with the late Frederick W. Taylor the "Father of Scientific Management" and in his capacity as consulting engineer has assiste[illegible] in the reorganization of a number of important industrial undertakings. Duri[illegible] the war he was a member of the Advisory Board of the National Council [illegible] Defense. Dr. Godfrey visions an industry brought fully abreast of the march [illegible] modern science and continually re-vitalized through scientific research.

ARTHUR A. HAMERSCHLAG is President of the Carnegie Institute of Technology, Pittsburg, and consulting engineer on industrial matters with offices in New York City. In 1903 he began the development of the Carnegie Technical Schools which today have 3,500 students and an investment of about $5,000,000. Dr. Hamerschlag made a unique and invaluable contribution to the conduct of the war while acting as Director of the Bureau of Industrial Research under Major General George W. Goethals, Director of Purchase, Storage and Traffic.

H. K. HATHAWAY, Consulting Engineer in Management, is a leading exponent of Scientific Management having been a close associate of the late Frederick W. Taylor. A graduate of the Williamson Trade School, Mr. Hathaway served his apprenticeship at the Midvale Steel Works and then went to the Tabor Mfg. Co. to introduce the Taylor methods. This work was done in association with Carl G. Barth and Mr. Taylor himself. Mr. Hathaway later became Vice-President of the Tabor Co.

During the war Mr. Hathaway—first as a captain and later as lieutenant colonel—made a conspicuous record. His work in connection with the organizing of the Supply Division of the Ordnance Department and later on the organization of the Ordnance Department itself and still later as the head of the Ordnance Supply Department in France, each constitute brilliant advancements in the management field. While Mr. Hathaway looks at industry pretty much through the worker's eyes and with a worker's interest he thrives himself on doing a full day's work and never apologizes for asking others to do the same.

J. C. Heckman, Consulting Engineer for Larkin Co., Buffalo, N. Y., is a good combination of the so-called "hard-headed business man" and technically trained engineer. Born at Phillipsburg, N. J., he is educationally the product of the Germantown Boys' Grammar School, the Philadelphia Central Manual Training School, Lafayette College, and Massachusetts Institute of Technology. After working during the summers of his college course he entered the employ of Larkin Co. in 1899 and gradually assumed charge of all engineering and technical matters for that company including design and construction of buildings, machinery, development of new processes and direction of large research activities. In 1909 he took charge of Buffalo plant with title of Superintendent.

Mr. Heckman early in the war was commissioned as a major in the Ordnance Department and played an important part in organizing the Supply Division. He was later placed in charge of the Construction and Operating Sections. In 1918 he was promoted to a full colonelcy and after the armistice was made chief of the Supply Division. Judged by both the amount accomplished and the high level of that accomplishment this was a very distinguished war record.

For five years Mr. Heckman has been Chairman of the Technical Advisory Board of the Associated Manufacturers and Merchants of New York State.

Edward D. Jones, Ph.D., at present Federal Agent in Employment Management for Federal Board for Vocational Education, was professor in Economics at the University of Michigan from 1901 to 1918. He is the author of *The Administration of Industrial Enterprise; Investments;* etc. During the War Dr. Jones was attached to the Committee on Education and Special Training of the General Staff of the Army and Director of Course Materials of Employment Management Section of the War Industries Board. He is an inspiring teacher, writer and lecturer on the public platform.

John Leitch is a mechanical engineer living in Philadelphia who has been more and more specializing in introducing a type of shop organization patterned after the U. S. Government with a Senate, a House and a Cabinet. His plan has been widely used and both the plan and the author highly commended. Mr. Leitch has a magnetic personality and a peculiar ability to gain quickly the confidence of those with whom he works. He is the author of technical papers presented before the American Society of Mechanical Engineers and an unusual book *Man to Man* in which he describes *Industrial Democracy,* the name he has given to his plan.

Jacob M. Moses is a lawyer by profession and acts as impartial chairman for two of the largest men's and boys' clothing manufacturing plants in Baltimore. He is a graduate of Johns Hopkins University and of the University of Maryland. He was a member of the Maryland State Senate (1900–1904). In his practice of the law he has specialized in industrial matters and is the author of a valuable monograph on *The Law Applicable to Strikes.* Judge Moses has lived his life so as to command the confidence of both sides of the industrial struggle.

George W. Norris, after graduating from the universal preparatory school of journalism, practiced law in Philadelphia for eight years, and in 1894 became a member of the investment banking firm of Edward B. Smith & Co., where he had about eighteen years' experience in railroad and industrial financing. He retired from business in the fall of 1911, and was almost immediately afterwards drafted by Mayor Blankenburg for four years' service as Director of the Department of Wharves, Docks and Ferries in the Philadelphia municipal administration. The following year he was again drafted, this time by the Federal Administration, to serve as Farm Loan Commissioner in charge of the establishment and operation of the Federal Farm Loan System, which in the course of a little over two years has sold nearly $800,000,000 bonds, and loaned a like amount to the farmers of the country.

Henry T. Noyes, Rochester, N. Y., in answer to our request for material about himself, said, "All I would care to have you put down is that I am Secretary of Art in Buttons." As a matter of fact, he is a distinguished American manufacturer who has done more things first—and done them well—than almost any other manufacturer with whom the editor is acquainted. The button-making plant over which Mr. Noyes presides is a model plant in the best sense of that word. Further, Mr. Noyes is a good citizen and as president of the Rochester Chamber of Commerce and in other relationships has rendered conspicuous service to his city and his country.

J. E. Otterson, President of the Winchester Repeating Arms Co., New Haven, Conn., is one of a group of officers trained in the Construction Corps of the U. S. Navy who have taken important posts in private industry and made a deep impression on our manufacturing methods. Mr. Otterson was particularly successful in quickly reaching a high production of small arms during the war. He was an important member of the committee of manufacturers who standardized this class of munitions. He is President of the Taylor Society.

Harlow S. Person, Managing Director of the Taylor Society (society to promote the science of management), Engineering Societies Building, 29 West 39th St., New York City, is an economist who has specialized on the art of organization. For fifteen years as Director of the Amos Tuck School of Business Administration of Dartmouth College, he took a conspicuous part in the development of a technique for American industry. His contributions to the literature of Scientific Management have done much to interpret the movement. During the war Dr. Person served as a major first in the Organization and Methods Section of the Ordnance Dept. and later in the Inspector General's Office. He was one of the organizers of the service by which various colleges and universities gave specialized training in army stores work.

Edwin G. Rust, Industrial Engineer, Philadelphia, has held a number of important administrative posts in the iron and steel industry. Educated as a mechanical engineer at Lehigh University he passed through the various grades of employment to machinist, master mechanic, draftsman, chief engineer, assistant manager and president. He has spent twenty years in close contact with the fundamental problem of American industrial development. During the war he assisted in the work of developing the nation's boiler manufacturing capacity in the interest of the Emergency Fleet Corporation.

N. I. **Stone**, Labor Manager for Hickey-Freeman Co., clothing manufacturers, Rochester, N. Y., is a statistician plus. He is interested in the application of the factor of precision to the study of industrial processes. As he has at times officially represented "the unions" and at present represents the employer n a union shop his views are especially significant. During 1909–1912 he was ief statistician United States Tariff Board and during 1913–1914 chief statician Wage Scale Board, Dress and Waist Industry of New York City.

**RANK J. WARNE** of Washington, D. C., might well be called a consulting omist and statistician. Since the railway brotherhoods undertook their ted wage movements in 1910, Dr. Warne has represented them in nearly all of their contests before boards of arbitration appointed by the President of th United States. These arbitrations have necessitated the critical examination [illegible] financial, corporate and operating methods of the railroads, In addition, [illegible] the consulting expert to Public Service Commissions, other labor unions, [illegible] large corporations engaged in rate cases before the Interstate Commerce mmission. During the war he rendered service to the Bureau of War Risk surance of the Treasury Department, to the Emergency Fleet Corporation of he United States Shipping Board, and is at present Manager of Industrial Relations and a member of the Board of Directors of the United States Housing Corporation.

Dr. Warne's point of view on social and economic problems is tersely summarized by *The Outlook* as follows:

> "He is one of that class of students of social and industrial conditions whom science and humanity combined have produced in America, and who are distinctly a product of a democratic country and a scientific age—that is, of a period in which love of humanity and love of truth are mingled in something like equal proportions in its best teachers."

**Edward Wilson** is a patternmaker in the employ of the Midvale Steel & Ordnance Co. His employers say that he is an unusually skillful patternmaker, regular in his work, dependable and accurate. His fellow patternmakers have shown their opinion of him by twice electing him as their Division Representative. The other Division Representatives have gone one step further and twice elected him as their Chairman.

For many years, Mr. Wilson has been active in politics, and has always stood for civic righteousness. His civic creed is very simple—so simple in fact that for twenty years, in division, ward and city his name has stood for just one thing i. e. the regeneration of Philadelphia from boss rule. For the past two years, he has used his inclination and experience toward the development of industrial righteousness in the plant where he has spent his industrial life.

# Production the Goal

By George L. Bell

Impartial Chairman, Men's and Boys' Clothing Industry, New York City

THE urgent necessity for increasing and "speeding up" the output of munitions and other essential materials during the war, and the prospective unprecedented demands following the period of devastation and non-production, have focused attention, as never before, upon production—and its attendant problems. Probably never has there been such a large number of people from various walks of life, so many industrial managers [illegible] many workers, in seeming agreement that the aim or [illegible]al problem of industry is production. But, in spite of [illegible] glib consensus of opinion on generalities, there has been [illegible] evidence of real thinking concerning the subject.

While a very worth while forward step in industry has been [illegible]ken by this quite sudden and general recognition of production [illegible] the master aim of the industrial plant, yet it is doubtful if the forward impetus can be maintained and concrete achievement attained by this more or less emotional recognition of a general principle. The word "production" seems to have widely different meanings for many who agree in using the word to describe the principal problem confronting industrial plants. There would be more opportunity for real, constructive progress if we could arrive at an actual, though limited and partial, agreement on the subject.

As a fundamental basis of agreement industrial management must squarely face and accept the fact that the peoples of the world today are not and will not be interested in production at any or all costs, or in production that ignores the human factors. There was a time, not long past, when there was not a very general appreciation of the "safety first" movement, and even today there is a discouragingly large minority of industrial managers who do not feel it to be their imperative duty to take every precaution to protect the workers from physical injuries in their plants. But all except the most "conscientious objectors" to change of any kind must admit that during the war period a new spirit or consciousness has developed among all workers, and among many employers and managers, which not only makes impossible the evasion of responsibility for the physical safety of employes, but which demands prompt and careful attention to many more intangible and intricate phases of the problems presented by the human element involved in production. It is not a theoretical situation which we are facing in this connection, but present and pressing facts, already clearly apparent in most civilized countries. The forward looking industrial manager today realizes that no longer can he aim at increasing production and profits *ad infinitum* by methods arbitrarily devised by the management alone and likewise arbitrarily imposed on the workers. Whatever his individual opinions may be, he is confronted with the fact that workers in this new era are n[illegible] will not be interested in production unless they are given [illegible] voice in the determination of the processes of the plant an[illegible] controlling the conditions under which they work—or, as i[illegible] commonly expressed today, "workers must have more share [illegible] the management." Labor and enlightened employers prese[illegible] today a solid front in demanding that the workers must b[illegible] considered as integral human parts of the plant and that [illegible] dustry must be so constitutionalized that some sort of real industrial suffrage or franchise is possible.

If, therefore, we are to arrive at any real agreement between management and workers to coöperate in increasing production we must conceive of the master-aim of the plant as being such production as is compatible with a real and measurable degree of human happiness and content in the work. Obviously this aim must not be so construed as to convert the plant into a mere experimental laboratory for the testing of "labor theories," for this would be merely reversing the former prevalent situation where the management imposed and tested its theories of production processes without giving much if any consideration to the effect upon the human factors. The aim must be carried out only by careful and scientific consultation and practical experimentation. The entire personnel of the plant must be made articulate in some way in order that each person may assume responsibility for and participate in the determination and definition of the production standards.

This modern concept of the aim of industry extends beyond the field of mere quantitative output and requires that each producing group render some greater service to the community and the world than the mere supplying of material goods. As a prominent leader of industry recently said, "Service to the world, not profit to ourselves, must henceforth be the guiding thought of business men." Plant owners and executives, therefore, must take the initiative and determine first their own functions and place in this new order. The board of directors of a large western department store, after an exhaustive study of this particular question, recently passed a resolution including the following aragraphs, which seem well worth quoting:

[illegible] emphasize that aspect of our proposed reorganization which may be [illegible] the democratization of the establishment. But there is another way to ach the same situation. We would look upon the plant as a great training ol in which every employee, from the executives down, is at the same time udent and a teacher.

It is just here that we as managers must find our excuse for existence. If very employee in this business comes to us fully trained, fully equipped to ake his part properly in the scheme of things, then the employees are running affairs, and we can hardly justify our accepting profit. We are entitled to profit only in the measure of our contribution to the working of this business. Our task is not to sweep floors, to wash windows, to keep books, to fill orders and sell goods. Directly and immediately, that is the business of our employees. But it is our province to make better sweepers, window washers, bookkeepers, order fillers and salesmen of our employees. It is not enough if we be bosses on the job, and mere task-masters. We must constructively contribute to the symphony, by supplying ideals, by devising processes, improving methods, inventing equipment, and training hand, heart and mind, if we would earn that portion of the income called, not wages, but profit.

But, it may be said, we supply the capital to run the business. For that we are entitled to interest, not profit. Or again, we buy the goods. In so far as that is true, we are entitled to wages, not profit. We assume the risk, in bad years as well as in good. True, and for that we are entitled to another kind of interest, not profit. Profit, when justly earned, is a reward for a particular kind of service which the employees themselves do not contribute.

"The employee no longer exists merely to aggrandize and extend the personality of the employer, but the latter exists solely to make effective the totally different function of the employee." (Harrington Emerson.)

Failure to realize this magnificent opportunity we have to make of this business a grand training school of technique and character carries its own penalty. We have but mediocre help, and that is expensive. We have a rapid labor turnover. When we require a man to fill an important post, often we go on the outside. Lack of a system of training makes promotion a rare thing, and consequently deprives our people of hope based upon a laudable ambition. Our service to our customers cannot be the best. Consequently, our own profits are not so large as otherwise they might be.

"The executive who develops novices into experts and the company which transforms mere 'handy men' into mechanics are public benefactors because of the service rendered to the country and their men." (W. D. Scott.)—That must be our aim and contribution.

The above paragraphs might be considered of little practical value if they were written as part of an academic treatise by a theoretical economist, but they embody the conclusions of a group of eminently successful business men made after an intensive study of their own establishment—an establishment generally admired by the public and which the casual observer wo[illegible] say was in no need of reorganization. Industrial executives [illegible] acquire something of this spirit if they, or their plants, [illegible] render effective service in the new era that is upon us. Pr[illegible]tion must be made to serve individual needs, not merely [illegible] promotion of the general wealth. Production should be org[illegible]ized not merely upon the basis of money or profits but upon t[illegible] basis of real human satisfaction. Stephen Leacock has well sai[illegible] "The continued increase of the sum total of wealth as a concom[illegible]tant of machine production does not of itself promote individua[illegible] welfare, with which indeed, it has but little connection." Much of the present discontent among workers is undoubtedly due to the necessity for performing uncongenial, monotonous machine work that seemingly follows a blind alley and denies ambition opportunity. The plant must be so organized as to allow each individual in the producing group to see the complete picture of the aims of the plant and his part in the structure as a whole; it must afford opportunity for satisfying the creative instinct—the primitive human instinct of love of work, which is so apt to be thwarted by specialized machine production; it must provide the ladders of promotion which the worker may climb if he will.

No all embracing formula can be devised for carrying out these aims of industry. There is an unfortunate tendency today to install static plans for the "solution" of the new industrial problems. In the attempt to encourage an interest in production, too many managers are adopting forms and phrases with little real substance. With small appreciation of the full meaning and spirit of the goal toward which the new industrial world is groping, efforts are being made, usually in good faith, to impose cut and dried "profit-sharing" plans, "industrial legislative councils," or "shop committees," on unwilling or apathetic employes. Industry is ever changing and progressing; therefore we can have no uniform, static, nor rigid, "solutions" adaptable to changing conditions and the progressive succession of problems. The thing that is possible and that is truly necessary is the creation of the human machinery or organization, based on broad general principles agreed to by all in the plant, ready at all times to study and meet questions as they arise. The name and form of the organization matter little so long as all individuals in the ant are truly represented and given a real voice in evolving the wers to new or recurring problems and in adapting the aims [illegible] plant to the developing ideals of production and service.

ere is, however, the danger of a too sudden reformation and [illegible] consequent exercise of an autocratic paternalism in attempt- [illegible] to keep up with the new movement. There must be no rusade" nor "campaign" which smacks of "uplift," for man- gement and employes today have in common an abhorrence of eing "uplifted." Though, as the result of panicky reaction to dustrial unrest, many may try to build the new structure of dustry on a foundation of mere emotional sentimentality, there st be a firm economic basis if the structure is to survive. rity cannot be the compelling motive because it is not the [illegible] to develop the industrial plant into an eleemosynary institution. Moreover, the workers who are seriously and sincerely pressing for a larger and broader participation in industry are not asking, and do not want, to be given things to which they are not entitled as a matter of economic and ethical right. If owners and managers alone determine and define the production that they think will best contribute to the happiness of the individuals involved, and if, with the generous gesture of industrial overlords, they give more freedom and opportunity to workers, the real and higher aims of industry will be degraded.

In the development of the economic basis for the new structure there should be collective or group action, for only thus can the idea of collective responsibility be engendered. Scattered, uncoördinated individual action should be avoided, for interest in group production means that the plant becomes a real entity and power for service to humanity. The management and the workers must study and try to understand each other's peculiar and distinct problems, and they must work coöperatively in solving these problems. It is submitted that profit-sharing schemes would meet with greater success if the workers were taken into real partnership on problems as well as profits. Efficient management is, of course, the exclusive duty of the plant executives, but the workers would be more convinced of the sincerity and motives of the management, and more stimulated to productive effort, if the difficulties confronting plant executives were explained as fully as possible to all in the plant, and if the processes of reasoning and deduction upon which orders and pl are based were likewise made clear.

There is no doubt that each worker owes a fair day's re labor for his wages, but before the employer can dema return he must have fulfilled an obligation which is abso a condition precedent—the providing of efficient managem And in the new industrial order an ever higher and higher de of efficiency will be required of management. Before we c talk of enlisting more general interest in increased production of developing the higher conception of the functions of indus that seems to be struggling for expression, there must be a m more comprehensive, thorough and detailed study of the cesses and costs of production. Management cannot spu workers to greater activity by merely shouting "More! M it must present definite standards of accomplishment for c eration by the workers and the proposals must be back by the forceful language of a task master, but by convi accurate data obtained by exhaustive general research intensive study of the plant operations. It is primaril of the management to bring such information to t table, and only with such information at hand ca employe, from the executives down, be a student and a in the great permanent training schools which are the paths of real service to humanity which industry is to follow.

Another development in the evolution of industry just becoming apparent is the breaking away from the secretiveness, isolation and hostility between individual

tion with even non-competitive matters. It is now real-
hat competing as well as non-competing establishments
nany problems in common—and certainly, at least, the
oblem—in the handling of which they must coöperate.
dization and constitutionalization of industries engaged
ame line of production on a national, if not an inter-
basis of research and determination of policies must
come, and the spirit of provincialism must be discarded
to make worth while progress. To take part actively
oader developments must be one of the conscious poli-
ry plant.

ummary statement, it might be said that the keystone
ch of the new industrial structure is to be found in the
lication of facts. Industrial relations should not be made
n involved "problem" through complicated and unnatural
s of plant organization. There should be established the
ple principle that all the workers in the plant should be given
opportunity to contribute to the detailed study of all the facts
aring on finance, and on processes and costs of production,
nd all such facts should be open to full examination and discus-
ion. If all the facts are not so exposed, then there is the suspi-
cion of an unworthy motive in concealing something. Concealment is certainly not in keeping with the modern and rightful aim of the plant. With all the data before the management and the workers, there is an opportunity for openly arriving at an agreement on the principles and the methods of dividing the income of the plant—then there is some possibility of establishing the often repeated assertion that "the interests of employers and labor are really identical," because there will be some common gain to both in increased production. Arbitrary power on either side, whether in connection with industrial relations or any other human relations, is dangerous and unsound; there must be concessions of power by common consent which will result in common advantages.

# The Key to Successful Industrial Manage

By A. Lincoln Filene

Treasurer and General Manager, Wm. Filene Sons Company, Bosto

WE do not have to theorize as to what a modern pla management should stand for. The facts are hand. Here and there throughout the country, exa sound and successful practice in industrial relations plant can be observed with profit to the observer. number of such examples is growing day by day.

Take two such well-known instances of organized rig tions as the system followed by Hart-Schaffner and Marx an International Harvester Company. In the former case, t has been peace and profitable production for years in spite conditions in the garment industry which constantly work agai stability. In the second instance, the Harvester people, after long and well prepared campaign, recently put into operation plan for industrial representation of its employes among the twenty plants based on the most enlightened principles of labor relationships.

The truth is that managers and men have in reality a common goal before them. But they have been at odds as to the best way of reaching that goal. And because they have been differing in this way, they naturally lost sight of the big fact that it was a common goal which both were really seeking.

What is that goal? It is to get the maximum satisfaction and return from the work. Anxiety, uncertainty, discontent—these things are the chief foes of fitness. Efficiency, we must remind ourselves over and over again, is more of a psychological than it is a mechanical result.

The management which recognizes this axiom holds the key to unlimited success. Where work is sheer monotony and nothing is done to offset it, where surroundings pull down health and strength, or where relationships are such that no man feels that he has any stake in the plant and that the scrap-heap is ahead of him so far as any concern on the part of the management is felt; in all

circumstances we have the fertile soil for ill will and poor
There can be no real organization here.

nagement has sometimes lost sight of the goal which it has
mon with labor. It has been blinded perhaps by a narrow
f view, a rigid devotion to rule of thumb, and indifference
reatest factor in production—the human factor. Income
satisfaction in work means labor instability, unrest and
output. And satisfaction in work is hardly possible
recognition by management of the human elements
Like all other human beings, the worker is a bundle of
He wants to create, to possess, to gain power, to have
and merit properly recognized, to play, to protect him-
his own. He wants to learn new things, to vary his
tion so that it does not get on his nerves. He wants the
actions which make life worth living.

ow the basic conditions for the output to which both labor
capital are committed and out of which alone they can draw
eir upkeep are those which make the best return possible con-
stent with business soundness. Wages should be the highest
nd not the lowest that conditions warrant. There should be
give and take on both sides. The men should feel that they never need ask for justice or fair dealing—these should come to them as a matter of course, because the business is so organized that it could not do otherwise.

Employment should cease to be a gamble and should hold out a future for those who mean to stay and make good. This means that the best thought of the employer must be given to eliminating the evils of irregular employment, and to offering incentives which help make labor contented and stable. Some employers are reducing the seasonal character of their business by inducing their customers to order goods enough in advance so as to spread production over a longer period; they are carrying on campaigns for the standardization of styles so as to be able to carry on production throughout the year; they are constantly studying methods of producing different lines of goods so that in slack periods they may be able to keep their working forces profitably employed.

Among other methods of changing employment from an affair of chance to a carefully planned function of management we find the increasing interest and attention given to the lems of hiring, placing, training and retaining workers th well organized employment departments in charge of ca executives who are thoroughly familiar with the probl personnel and employment and are open-minded on the difficult questions which confront industry today. T the modern employment department we find it possible t a better class of workers, to place them more advantage themselves and to the management, to offer workers a house for possible grievances and their adjustment, to g to the workers and their problems. The expensive of labor is more easily reduced where such a departme because it can study the reasons for such turnover in de point out the remedies. Instead of the reckless hiri firing of workers we find substituted the careful study o to conserve labor so that it will pay adequately for the in ment in it.

The contact between management and men should be su as to give all concerned a feeling of security in the motives each. All the cards must be laid on the table. Each side mus help the other with its viewpoint, knowledge and skill. This comes only when frankness and mutuality govern. And this frankness and mutuality must be made part of the written policy of the management, specific, concrete, detailed, so that all may know that they are working under a control of principles rather than of individuals. One of the great causes of industrial unrest has been the fundamental misunderstanding and mistrust of one another by employer and employed. The modern industrial plant seeks to remove this mutual mistrust by the establishment of a clearly defined labor policy worked out with the representatives of the workers in the plant; such policy forming the basis of the employment contract, implied in the conduct of the employer, or expressly agreed to in some form of collective bargaining.

The newest development in establishment of right relations between management and men is the shop committee modelled more or less on the plan worked out in England by the Whitley Committee. Already many employers are taking advantage of this method of meeting their employes on common ground for discussion and action on matters of mutual interest and benefit. Such committees, to be successful, must be taken into the full confidence of the employer and given a real share in the management of the enterprise. The mistake is being made of labelling some schemes "industrial democracy" when democracy is conspicuous by its absence and the whole thing is a shallow attempt which really defeats the demands of the workers for participation in management.

Many people have to learn, and not a few do so only after very costly and bitter experience, that it is better to be genuine than spectacular. Workers are never deceived by make-believe industrial relation schemes. They respect the man who is honest, even though badly mistaken, in his industrial outlook. ey reward all insincerity with lasting contempt, disguised h it may be.

here is great opportunity ahead for every business and ustry to take steps forward in bettering relationships within e establishment. Many a big figure in the management world onsiders it a high privilege to have a hand in such work. That s an encouraging sign of the times. There is no panacea, no patent drug, for making all things right within a plant. But this may be safely asserted: the key to success in management is *organized* and *sustained* effort on the part of all executives to approach a condition of mutual trust and mutual effort between the parties engaged in carrying on the industries of the country.

# Some Twentieth Century Problems[1]

By William B. Dickson

Chairman of the Board and Vice-President Midvale Steel and Ordnance Company, Philadelphia

PARTLY in fairness to my readers and partly in self-defense, I feel that I should tell you who, or rather what, I am.

Commencing as a boy, I was a manual worker for several years in the Homestead Steel Works. I was fortunate enough to receive promotion, and eighteen years later I became one of the junior Carnegie partners. When the Steel Corporation was formed, I came to New York with Mr. Schwab, and for ten years was vice-president. I retired to a New England farm in [illegible] and four years later returned to active business life as an offic[illegible] Midvale Steel and Ordnance Company. I cite this experie[illegible] to show that I have at least had the opportunity to study some[illegible] our social problems at close range. So much for "who" I am

Now, as to "what" I am: Some of those who know me best and who certainly should be qualified to judge, if long association is the test, call me by various pet names—such as socialist and anarchist. Only last week, a prominent New York banker, with whom I was lunching, asked me if my middle initial stood for Bolsheviki. I usually counter on them by asking them to define the term "socialist," and I have yet to receive a fairly intelligent answer to this question.

There is a lot of loose thinking on this subject, if it can be dignified by that term. As a matter of fact, most of the men who use these epithets as terms of reproach are either timid souls who, ostrich-like, prefer not to see possible dangers on the social horizon; or, they are at heart aristocrats, in spite of the fact that they are citizens of a republic.

Aristocracy, or autocracy, (the terms are interchangeable with me) is an attitude of mind and not a social condition. It is a common error to suppose that the lines separating democrats and autocrats are horizontal only. They are also vertical, and I have found relatively quite as many men of aristocratic or autocratic attitude of mind among workmen, as among the so-called upper classes.

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[1] Address delivered before the Philadelphia Section of the American Society of Mechanical Engineers, January 28, 1919.

In an autocratic state, men of servile mind, having the will to obey, are as necessary an element as those having the will to command. It is an infallible mark of the true aristocrat to be brutal to his inferior, insolent to his equal, and servile to his superior. The German people furnish the most striking illustration of this truth. In my opinion, there is one offense which, in its very essence is unpardonable, i. e., that general attitude of mind which may be expressed as the "will to obey."

Most men have a test which they unconsciously apply to their fellows. With some, it is their form of religious belief; their party affiliations; their intellectual attainments; or their social financial status. As I grow older, I find myself applying to all with whom I come in contact, this test: Is he democratic or stocratic in his ideals? And to the extent that he puts into actice in his daily life either of these ideals, I am attracted to or epelled by him. I have been amazed, and at times disheartened, at the number of men and women born and reared in the United States, who have no true conception of the ideals on which our government is founded; and not all of these, by any means, have been found among the rich. Like Louis XV, they appear quite content to act on the idea—"after me, the deluge."

An aristocrat is one who tries to get out of the social order more than he contributes to it, i. e., he wants something for nothing; his ideal social system is one where the permanency of his unearned income is assured at the expense of his fellow-citizens; and he is serenely regardless of the fact that in order to accomplish this economic miracle, somebody must get nothing for something. There are a great many varieties of aristocrats, ranging from the common hobo, who comes to your back-door to receive his unearned bread, up to the politicians, most lawyers, some Napoleons of finance, kings and kaisers; and they all have in common one very interesting trait, i. e., a profound contempt for those from whom they draw their unearned sustenance. The cootie is your true aristocrat. If it were possible to penetrate into the mental processes of this parasite, we would doubtless find that it has a profound contempt for its host. I would, therefore, suggest as the proper heraldic device for the man who draws more out of the social organism than he contributes to it, i. e., one of the so-called aristocrats or privileged class—"a cootie couchant on a field of gold."

But the term of reproach which always interests and pleases me most, is "radical." I am glad to be called a "radical" providing I have something to say as to the definition of the term. I accept that which Gladstone gave when he was once asked to explain the difference between the British parties. His definition was as follows:

Conservatism—Distrust of the people, tempered by fear.  
Liberalism—Trust of the people, tempered by prudence.  
A Radical—A Liberal in earnest.

The dictionary defines "radical" as, "of or pertaining to the root; fundamental; thorough." If, when I am gone, those [illegible] knew me best could honestly write as my sole epitaph: [illegible] Radical, worthy of the name,"—I could not wish for a mo[illegible] honorable remembrance.

Whether I have fairly earned any of these titles or not, you may be able to judge better when I have concluded. At the outset, however, I want to disclaim being a mere sentimentalist, as that term is usually understood. I have had to deal with hard facts all my life, and I believe that I am able to keep my feet on the ground, even if my head may seem to be in the clouds.

With this introduction, you will be able to discount any opinions I may express.

Many of the cherished traditions of the Carnegie veterans are associated with Capt. William R. Jones, General Superintendent of the Edgar Thompson Steel Works, who was a very successful manager and one of the last survivors of that era of iron and steel manufacture, which immediately preceded the present scientific era. It is related of him that on receiving notice from the Pennsylvania Railroad Company in the seventies, that they would require certain minimum and maximum chemical limits in their rails, he protested to Mr. Carnegie against the proposed restrictions, saying that, "the steel business has gone to hell since these damned chemists have been mixing in on it." This perfectly natural attitude of mind on the part of Captain Jones is paralleled by that of the average employer of today in his consideration of human problems which, so sorely against his will, are being thrust upon his attention.

When I was a boy, the conflict between science and dogmatic religion was raging. The geologists, particularly, were being denounced from every orthodox pulpit because their discoveries seemed to question the accepted scriptural chronology which fixed the creation at 4004 B. C. I remember that the question of the fossil remains of extinct animals troubled the brethren, and they finally dismissed the problem by stating that the Lord created these remains just as they were found in the geological strata. When their attention was called to undigested fragments of bone in the stomachs of these prehistoric monsters, they still maintained that the Lord created these also just as they were found. I do not remember just how they explained why the Lord should have gone to so much trouble to fool his children of later generations, but perhaps they considered it in the light of a practical joke.

We smile now at the recollection of this intellectual darkness, which came so near to some of us. I wonder if future generations will smile at some of our conceptions of the laws of human relationship as exemplified by our industrial system? The great distinguishing mark of the true scientist is that he is satisfied with nothing less than demonstrated truth; and, having discovered a physical law, he ever after conforms to it, regardless of custom or precedents of the past.

There is a sense in which all truth must be discovered by each individual before it becomes truth to him in any vital sense. I left school when I was eleven years old; it being an ungraded country school where the same teacher taught the A. B. C.'s and cube root. I had a smattering of the higher mathematics, but to me they were meaningless. Many years later, I was suddenly confronted with necessity of placing in the plate mill at Homestead, rolling orders for plates for a large tank; the only information given being the dimension of the tank. For a time I was stumped, as I found that the different plates had to be figured in detail, and on some I had to find the hypotenuse from the base and altitude. Some dim recollection of this simple problem in geometry still lingered in my mind, and by getting out my old school-books, I finally mastered the problems and laid out the plates. When I had finished and found that the hypotenuse as figured, actually corresponded to the dimensions as laid out to scale, I had a new appreciation of plane geometry, and was so elated that I felt that I had discovered some of its principles in as real a sense as old man Euclid himself.

This rediscovery of truth is experienced by nations as well as individuals; as an instance, Columbus discovered America in 1492, but Germany did not discover America until 1918. Does it not seem strange to you that we of this twentieth century, the heirs of all the wisdom and experience of past ages, should be discussing what seem to me ought to be recognized as the very elemental laws of human relationship?

The greatest advance ever made by the human mind was the recognition that the entire material universe is in the grip of unchangeable law. We are not always conscious of this, but a little reflection reveals to us the fact that every motion of the tiniest speck of dust floating in the sunbeam is subject to and in harmony with, exactly the same laws of gravitation and motion which hold the planets in their orbits. Since Copernicus confirmed the speculations of the old Greek philosophers, and Newton and Kepler solved the riddle of planetary motion, the advance in knowledge of the laws governing physical phenomena has been stupendous. But when we leave the realm of the physical and enter that of the psychical, we find that very few accepted landmarks have been established, and that in our knowledge of the laws of human relationship, we still see "as in a glass darkly."

I believe that there are fixed irrevocable laws of human relationship, just as there are laws of chemical relationship and of motion, and that if it were possible to obtain a detached and accurate view of the progress of the human race over a sufficiently long period, the operation of the evolutionary processes would stand out as clearly in human affairs as they now stand revealed to us in the material universe by the chemists' laboratory and the astronomers' instruments. I believe that the attempt to ignore these laws brings its inevitable penalty to the individual, the family and the race, just as surely as the attempt to ignore a physical law.

Thinking men of all ages have recognized the need of establishing society on principles of justice and equity, however much they may have differed as to the definition of such principles. Plutarch is a prolific source of information as to the laws and customs of the old Greek and Roman republics. I recommend you to read his *Lives* and in reading, notice how often these old civilizations had to deal with problems which, in our provincial thinking, we have considered peculiar to our modern times.

Oliver Wendell Holmes, in one of those inimitable talks at the Breakfast Table, speaks of being able to see enough of the arc of some persons' character in five minutes' conversation, to calculate from it their entire mental orbit. Even 5,000 years of the recorded history of mankind would not seem to have furnished an arc long enough to determine the true orbit of the human race, and from it the laws of its evolution, if we were to judge from the history of the last four years and from some conditions still strongly entrenched in our modern life.

I believe that the line of true progress is in the direction of democracy. I have a keen appreciation of its inefficiency in operation, but I believe the remedy lies in more democracy. A celebrated English statesman and essayist once said:

> There is only one cure for the evils which newly acquired freedom produces; and that cure is freedom. When a prisoner first leaves his cell, he cannot bear the light of day, he is unable to discriminate colors, or recognize faces. But the remedy is, not to remand him unto his dungeon, but to accustom him to the rays of the sun.
>
> The blaze of Truth and Liberty may at first dazzle and bewilder nations which have become half-blind in the house of bondage. But let them gaze on, and they will soon be able to bear it. In a few years, men learn to reason. The extreme violence of opinions subsides; hostile theorics correct each other. The scattered elements of Truth cease to contend, and begin to coalesce; and at length, a system of justice and order is educed out of the chaos.
>
> Many politicians of our time are in the habit of laying it down as a self-evident proposition, that no people ought to be free till they are fit to use their freedom. The maxim is worthy of the fool in the old story, who resolved not to go into the water until he had learned to swim. If men are to wait for liberty until they become wise and good in slavery, they may indeed wait forever.

I believe that there is a great fundamental law of human progress, and that that law is Human Brotherhood. This idea can best be expressed by the word—"democracy." Louis F. Post, in his *Ethics of Democracy* says:

> There is no social problem so intricate, no labyrinth of political affairs so confusing, that its ethical difficulties cannot be overcome by submission, in good faith, to that great moral principle. This is no pious platitude—it is a recognition of the fundamental law of social life
>
> The true gospel of social regeneration is this—"I am not my brother's keeper: but I am bound to respect and conserve my brother's rights."

The one clearly defined issue which seems to run through all history is the eternal, irrepressible conflict between autocracy and democracy. And now, America—the hope of a world grown weary with this ancient conflict—is facing anew the problem of the ages. How will she answer it? This is the theme to which I wish to direct your thoughts and I desire to say to you frankly, that I expect to raise some questions to which I have not been able to find completely satisfactory answers.

Let me quote a recent poem by E. E. Miller:

THE QUESTION OF ALL TIME

Beside the road of time the gaunt Sphinx lay
  Half buried in the dust of cities dead.
  A mighty nation came with ringing tread;
The monster rose; the traveler stood at bay
And heard the riddle: "What is there to say
  When idlers feast and toilers lack for bread?"
  No answer came; a struggling gasp instead

Told that the Sphinx had clutched another prey.
Empire on empire fell, the question still
  Unanswered, and to-day our young land hears
It asked. She hears; her lips half apart with will
  To speak; yet she is silent and appears
To halt in sudden doubt 'twixt two replies—
Still closer draws the Sphinx with baleful eyes.

My grandfather landed in Philadelphia in the autumn of 1830. He had come, in advance of his family, to see if America really was the promised land of which he had heard. He rode on horseback to Pittsburg—the journey requiring fourteen days. After spending some months in the Ohio Valley, he started back to Philadelphia on horseback in the depths of winter and suffered severe hardships in the crossing of the unbridged streams. I have had occasion in the last thirty years to take this journey hundreds of times over practically the same route, and the picture of my grandfather has often been in my mind as I looked out of the car window of the Pennsylvania Limited.

Not long ago, while thinking over some of the problems we are discussing, I tried to picture what he would have thought if he could have foreseen the changed conditions in which his grandson would live. Let us suppose that he could have foreseen that in these latter days the journey from Philadelphia to Pittsburg, which he made with such toil in fourteen days, would then be made in ten hours in luxurious ease. That the ox-team, turning a single furrow would be displaced by great tractors which would drag a dozen plows and plow up an acre in seven minutes; and that, when the grain was ripe, it would be reaped, bound, threshed and sacked by mechanical power, so that one man's labor would be equal to that of fifty men of his time. That instead of the slow hand-process of carding, spinning, and weaving of cotton, wool, and flax, great mills would be filled with power machinery that would multiply the product of man's labor a hundred fold. That all of the crude appliances of his time would be superseded by the marvellous labor-saving devices with which we are so familiar. What would have been his conclusions as to the state of society in which his grandson would be privileged to live? Would he not have been justified in looking upon it as a Golden Age—an age in which the curse of poverty had been finally overcome? An [redacted] in which no honest man, willing to do his share in the com[redacted]unity life, need ever have any apprehension of want for himself [redacted]r his family? Has such a state been realized? If not, why?

Justin McCarthy, in his *History of Our Own Times*, tells of the horrible conditions under which women labored in English coal mines, when the seam of coal was so thin that they had to crawl on all fours for fourteen to sixteen hours a day, dragging after them the trucks loaded with coal. And this condition existed in the enlightened reign of good Queen Victoria.

I remember on my first visit to London, looking out of my hotel window early one morning in May and seeing a crowd of outcasts waiting for the park gates to be opened, so that they could get in and throw their exhausted bodies on the damp grass. They had wandered the streets all night, and this was their only place of rest. I was informed that in London, on one night, as many as 35,000 homeless men, women and children have walked the streets —of whom it could be said, as was said of another outcast—"he had not where to lay his head." And this condition was in the reign of good King Edward, and in the richest capital in the world.

Four years ago, in February, 1915, as I sat down to breakfast, I opened the *New York Sun* and saw two headlines on the front page which made a lasting impression on my mind. At the upper left-hand corner, was the announcement that a well-known

American business man had bought four pictures for $250,000 each, or $1,000,000 in all. At the upper right-hand corner on the same page, was the announcement that about 2,000 men, women and children had stood in line the previous night in the cold rain, to receive from the hand of charity a roll and cup of coffee, to keep them alive till morning. And these were not vicious men and women, outcasts from society, but working-people unable to obtain employment. You will recall that this situation was so serious that Mayor Mitchel appointed a committee of prominent New York citizens of which Judge Gary was chairman to deal with this question of unemployment. Incidentally, I might remark that while Judge Gary was wrestling with the problem of unemployment in New York, a large proportion of the men employed by his company were working twelve hours a day and are still doing so.

As Louis F. Post says in his *Ethics of Democracy:*

> Though wealth is abundant, and wealth producing power emulates Omn[illegible]tence—degrading poverty, *and the more degrading fear of poverty,* are dis[illegible]guishing characteristics of civilized life. Instead of lifting all to better conditio[illegible] of opportunity, man's triumphs over the forces of nature, enormously enrich few at the expense of the many.
>
> They have done little to increase the comforts of the toiling masses, even absolutely, but much to diminish their comforts relatively; *and industrial liberty they have almost destroyed.*
>
> The gulf between riches and poverty has not been filled in; it has been widened and deepened and made more of a hell than ever. So dreadful is the poverty of our time felt to be, that it has inspired us all with a fear of it—a fear so terrifying, that many more good people than would like to acknowledge their weakness, look upon the exchange of one's immortal soul for a fortune, as very like a bargain.

The Declaration of Independence proclaims as the inalienable birthright of every human being, the right to "life, liberty, and the pursuit of happiness." I would like to amend the last expression to read—"the attainment of happiness," or, at least, a reasonable opportunity for its attainment.

James Mackaye has said, "Everywhere we are taught that life is sacred, that liberty is sacred, but where are we taught that happiness is sacred?" And yet, it is only because of their relation to happiness that these other things have a trace of sacredness.

You may be surprised to have me name as one of the causes of social unrest in our day the modern factory system, which we are accustomed to hear extolled to the skies as one of the most notable evidences of our progress toward a higher civilization. I confess approaching this subject with a good deal of hesitation, because it is not easy to reason this problem to a satisfactory conclusion. It is my earnest belief, however, that the man who, day after day, for the best years of his life, is a mere cog in the complex organizations which go to make up our modern factory system, is bound, in spite of himself, to be stunted mentally, morally and physically by the dreadful monotony of his task. I have in mind such operations as wire-nail factories, where, amid the ceaseless deafening din, a man stands tending automatic machines pouring out an endless stream of nails. How much pride of achievement can be associated with such a task; or, even worse, with the tasks in the dust laden, lung destroying textile, cement, acid, and fertilizer works?

The village blacksmith of our fathers' days, who would shoe a horse in the morning and make a chain or build a wagon in the afternoon, was a better all-round citizen than the man who stands day shut out from sunlight and fresh air, feeding some automatic machine, in the product of which he can have little pride. And this is not because the old-fashioned blacksmith was inherently a better man, but because of the inevitably narrowing effect of modern factory work.

I believe this very thing of which we are so proud is full of menace to our civilization, and that there was more of the joy of living among the rural population of a century ago than among a large proportion of the factory operatives today. The most important raw material of our factories is never mentioned in their system of accounting, namely, human lives and characters, but the finished product is made up of these elements just as really as of wood or steel or cotton. Cheap factory products would seem to be a vital necessity to our civilization, but if in producing them we are debasing our manhood and womanhood—yes, and O, the pity of it, that we must include our child workers also—we are paying a fearful price for them!

In the mechanical arts, the world has progressed more in the past century than in all previous recorded history. If George Washington could have invited the Pharoah of the Exodus to visit his plantation at Mount Vernon, he could not have shown him any advance in the art of agriculture over his own time; and, with the exception of gun-powder, printing and the telescope, he could have shown him little or no advance in the mechanical arts. The steam engine, the cotton gin, the spinning jenny, the power loom have revolutionized human life since then.

Most of the marvellous advances in applied science have been made in the memory of men still living—such as the sewing-machine, telegraph, telephone, phonograph, electricity in all it branches, internal combustion engines, dynamite, airplanes and submarines. In view of this wonderful acceleration in material progress, we should not be surprised to find a tendency toward a similar progress in the domain of human relationship, which, in some of its aspects, is as startling as were some of the inventions I have mentioned.

It is the tendency of the average business man to mistake mere inertia for true conservatism, and it is a sad comment on the power of inertia in human affairs that great advances in the science of human relationship seldom are achieved as the result of calm reasoning, but usually under the pressure of dire necessity or public danger. An English statesman once said that the British Parliament had enacted many just laws, but that it had enacted very few because they were just.

Many wonder at the social unrest which is so much in evidence, but as I contemplate recent history my wonder is not that men have become aroused, but that they were able so long to remain quiescent under such conditions. As Mr. Gompers recently stated, the Bolsheviki are not all to be found in the ranks of labor. While I am not able to follow Mr. Gompers in all of his conclusions, I do agree with him most emphatically in his statement that in our free America, the day of the autocratic employer has passed; never, I hope, to return. I subscribe to the doctrine that human labor is not a commodity in the ordinary sense of the term. When a man, or a number of men, for their own ends create a great industrial unit, they assume an obligation toward the human elements in that unit, and through them to society in general, which cannot be cancelled or arbitrarily suspended.

In a completely natural society, every man by reason of close and continuous contact with land and other natural resources would be an independent, self-sustaining unit. When a man has left this natural condition, whether voluntarily or otherwise, and has become the servant of another man, or other men, he has given up a natural right, and his employer has assumed an equivalent obligation. The fact that neither the employer nor the employe has been conscious of this exchange and that both may have acted from purely selfish motives, does not alter the elemental fact, which, in the great national aggregate, constitutes the big unanswered problem of modern times; the elemental fact that is at the base of all social unrest.

The saying—"Taxation without representation is tyranny," epitomized the sentiment back of the American Revolution. Whether money is taken from a man by unjust taxation, or withheld from him by an unfair wage system, the principle remains the same. Lincoln, in one of his famous debates with Douglass, said, "A house divided against itself cannot stand; this nation cannot continue to exist half slave and half free."

Political thinking has advanced with tremendous strides since then, so that as a result of the war with Germany, the nations seem ready to say, "This world cannot continue to exist half democratic and half autocratic." And while this is true in the domain of politics, it is no less so in industry. Our past history is full of instances where men in control of large aggregations of capital have been guilty of grave abuses against the public welfare and against the most elementary principles of morality. These autocrats of capital have been partly balanced (whether as an effect or a cause, would depend upon your point of view) by equally autocratic and irresponsible labor leaders, who have not hesitated to use force in its vilest forms in order to win their ends.

I do not unreservedly denounce the use of force, as to do so I would have to include in such a sweeping condemnation, some of the noblest of mankind, who, as a last resort, and to redress just grievances, have not hesitated to use it. But this, which should be reserved for the holiest uses, has been prostituted by labor demagogues to achieve the most trivial ends. The only way out of this senseless conflict between capital and labor is for employers to realize that the day of Industrial Democracy has dawned, and that "*The Establishment of wage rates and other conditions of employment without representation is tyranny.*"

Much has been done by benevolent employers to improve working conditions, but however conditions may be improved, the right of the workmen to collective bargaining must be recognized as a legitimate outgrowth of American ideals. The individual workman, dependent on his own strength and resources, cannot hope to bargain on equal terms with the corporation. If he cannot do so, and is debarred from association with his fellow-workmen, *he is no longer a free man but a serf: and the serf has no place in the future of America.*

Many years ago, a noted steel man was asked which was the most important factor in his business—labor, capital, or management. His reply was in the form of a question: "Which is the most important leg on a three-legged stool?" While the above conclusion as to the equality and interdependence of these three factors has been generally accepted as a theory, in very few instances has it been given practical effect.

I believe that the greatest task to which American employers must address themselves is the devising of practical ways in which labor can be given the full recognition to which, as an equal partner, it is entitled. I make this statement with absolute confiden[illegible] in the fairmindedness of the American workingman, when he [illegible] fully informed and is entirely free to act. If I did not have this confidence, I should despair of the future of our free institutions. I believe that one of the first steps necessary to inspire the workmen with confidence in the sincerity of the employers' recognition of the proper status of labor, is the adoption of a fair system of collective bargaining. I am glad to say that the company with which I am connected has recognized this right, and has established what I believe to be the most democratic system of collective bargaining which has ever been devised.

I do not wish to be understood as predicting that this is going to bring in the millennium. The most perfect system must be administered by men with human frailties, and mistakes of judgment will, no doubt, be made on both sides. However, as President Wilson once said, I am more interested in the direction in which a man is facing than in his rate of progress, and I am sure that we are at least traveling in the right direction. Some of you may ask what is to become of the sacred freedom of contract under such a system? I answer: the same thing which has happened to many other seeming natural rights which the individual has sacrificed for the common good.

Consider, for a moment, the natural rights which you have resigned as compared with the residents of Philadelphia only two or three generations back. Can you imagine some doughty individualist of those days submitting suddenly and gracefully to all of the laws and ordinances of the municipality, the state and the federal government, to which you give not only obedience but assent also? Would your great-grandfather have tamely submitted to compulsory vaccination, to restricted child-labor, to the haughty traffic policemen and your one-way streets; to all of the restrictions on personal liberty which you recognize as essential to the common good? None of these questions can be answered separate and apart from the problems of our complex civilization.

I also believe that as a further natural development of democratic ideals, systems of profit-sharing with employes must be worked out and adopted. One of the earliest records we have of the employment of one man by another for wages, is that of an Arabian Sheik, who employed a young man to care for his flocks. is interesting to note that while at first he was a mere hireling, e relationship eventually changed into one of profit-sharing. refer to the story of Laban and Jacob as recorded in the XXX Chapter of Genesis. If you look this up and find that the employe put one over on his employer, I hope you will not on that account condemn the principle.

No system could be devised which would be applicable to every industry, but this basic principle would be common to all. Capital can with reasonable care be invested so as to return, say 5 per cent, with little or no risk to the principal. Where it is invested in a business where risk of depreciation or loss of the principal is a constant factor, as it is in most industries, it should have the first call on the profits to an amount in excess of 5 per cent to cover fully this risk. This percentage would, of course, differ widely, from that of National Bank stock up to manufacture of explosives. If I were asked to suggest a tentative plan for the average well established steel company, I would first give the stockholders 10 per cent on their stock and divide the surplus over this amount equally between the stockholders and the employes, including the management.

In other words, capital, management and labor are each entitled to wages at current rates, and to a sufficient share of the profits to insure permanency. Capital, under the example cited, would receive 5 per cent as wages and an additional 5 per cent as insurance. Management would receive salaries which, presumably, would be large enough to enable each person to avail himself of modern life, accident and health insurance. Labor would receive wages at current rates and would be insured by the Workmen's Compensation Law, maintained by taxation of industries. After the payment of these wages and insurance, the remaining profit should be divided equally between capital, on one hand, and management and labor, on the other.

And now, in conclusion let me ask: In what spirit shall we deal with these problems? In that of class consciousness, or in that broader spirit of human brotherhood which is so gloriously set forth in the writings of the lovinghearted Lincoln—"With malice toward none—with charity for all"?

Herr Ballin, one of the wisest of the former counsellors of the kaiser, in a recently published letter, ridiculed the idea that Americans as a nation were Mammon worshippers, and expressed the opinion, based on long years of close business association that we were on the contrary, above everything, a nation of idealists. That this has been true in the past, we need only to point to the Civil War, waged for the great ideal of human freedom; to the part we played in the Boxer Rebellion, in returning to China our share of the indemnity exacted from her; to the Spanish War, waged to end the intolerable conditions in Cuba, and to establish her as a self-governing nation; and, lastly, to our part in this great war in defense of civilization in which we engaged technically, perhaps, because our legal rights were violated, but in fact, because we recognized that it was a death struggle between autocracy and democracy and one in which the leading democracy must play a noble part, or be forever put to shame.

In this holy war, in which the ideals for which America stands have been so gloriously triumphant, the sons of employers and workmen have marched shoulder to shoulder, and many of them sleep together today in the same patriotic graves in the soil of France, hallowed by their sacrifices. Let us, in the same spirit of brotherhood, grapple with the problems of peace and help to usher in the dawn of an Industrial Democracy, which will give fuller recognition to the thought expressed by Burns:

> The rank is but the guinea stamp,
> a man's a man for a' that.

What constitutes a state?
Not high-raised battlement or labored mound,
Thick wall, or moated gate;
Not cities proud with spires and turrets crowned;
Not bays and broad-armed ports
Where, laughing at the storm, rich navies ride;
Not starred and spangled courts
Where low-born baseness wafts perfume to pride;
No. MEN! high-minded men—
Men who their duties know,
But know their rights, and knowing, dare maintain.

# The Drift in Industry

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THE aims of the plant can be summed up in a single comprehensive sentence: To serve as an integral part of modern industry. Such a mandate implies relationships of three kinds, namely, toward other employers, toward employes and toward society as a whole.

What can the relationship toward other employers be today? Dealing with American industry as it is commonly conceived to be, what possible relationship of anything like mutuality can be effected among employers? It would seem, none. For industry in this country is taken to be an organization of unrestricted competition. It is spun into our organic concepts of political pr[illegible]ciples and woven across our industrial fabric. We are wont [illegible] glory in what is nothing less than studied individualism, in a land of supposedly boundless opportunities, wherein he who asks for a handicap of assistance or he who cannot survive the flood, is regarded as the necessary victim in the process of weeding out the unfit. With such possibilities assured, as are thought to obtain here, no one in the struggle for industrial life is expected to ask for quarter or to give it.

There still ring in our ears the campaign cries of a few short years ago: Bust the trusts. We may even recall what a feeling of satisfaction settled down upon the exponents of the Manchester school among us when the Sherman Anti-Trust Law was passed. We have rather taken it for granted that competition would always be with us. Competition was accepted as the life of trade, until trade became the death of competition. But how reluctantly, even at this late hour, do we acknowledge the fact? In spite of the absolute trustification of all important industries, we imagine that the Sherman law still operates, through the interpretation read into it by the Supreme Court, when it differentiates between "reasonable" and "unreasonable" monopolies in restraint of trade. And imagining that copy book maxims receive a hearing in the mad chase after dollars, we console ourselves with the suggestion that there are "good" trusts and "bad" trusts. By a peculiar twist made in our thinking process, we reconcile the laying of tariffs, granting of subsidies and passage of protective legislation, as in some mysterious way compatible with our theory of competition. They are not reconcilable. Industrial evolution is scrapping the *laissez faire* platitudes.

If we were constituted to welcome a revolutionizing of our theories, when it answers the test of wholesomeness, then there should have been such a revolutionizing as a result of the experience of our country in the war. For over the head, and thrusting aside the whole spirit of the Sherman law, comes the proposal to permit and underwrite combinations of American capitalists to handle export trade. Only a confirmed hairsplitter would insist that the door of combination be kept closed for domestic trade, while opened wide for foreign business.

Moreover, when the war came to America our government [illegible]nd it necessary, first having obtained the authority to do so [illegible]om Congress, to substitute an administration of industry for our [illegible]olitical management of men. The running of industries essential to the conduct of the war was practically taken over by various bureaus at Washington; also the control of prices, raw material and finished product. For the first time it was assumed that industry as a national enterprise could not be conducted planfully and scientifically, unless there were a mind at the head of it, an intelligence of centralized effort such as would operate our whole industrial process as a unified whole, having regard for nothing so much as the ordering of our economic life and the security of our national being. Production was carried on for the direct purpose of supplying the market whose dimensions were measured and proved. There was the fear of neither underproduction nor glut in any branch; we were not to have the spectacle, so common in the past, of being offered too many shoes when we needed wheat.

But when the war ended, the industrial mechanism built at Washington, which was functioning so well, folded its tent and silently stole away. We were expected to go on as though, like the Bourbons, we learnt nothing and forgot nothing. The ghastly trail of the calamity which befell the world was to yield us no lesson that would lift our industrial cart out of the individualistic rut it had been accustomed to follow. We were to be as we were before.

But all a war, or for that matter a revolution, does is to bring to a head tendencies which have been already gathering. In the sudden upheaval, in the unexpected flash of light, we are apt to assume that entirely unwarranted phenomena are taking place. This is not always true. Possibly we shall even come to see, when we can take a historical perspective of what we have gone through, gained and lost in the last four years, that the world would have undergone in about the same time equally fundamental changes, industrially and socially, had we missed the war. And we may have had our evolution in a finer way.

That is to say, we had long since been steering into trustification and monopolization. However much we might blink the fact, when the first employers' association was formed there could be no outcome but "gentlemen's agreements" to distribute r material, place the output, fix wages and prices, eliminate d cation, dispense with unnecessary advertising, wipe out ot waste, and secure friendly as well as prevent hostile legislati

Then, too, as business flourished, as the profits kept rolling always in bigger heaps, as they begged and pleaded to be dispose of in enlarging the business or sugaring allied enterprises, it was inevitable that a single corporation, or a small group of corporations, would hold in their grasp the larger share of an industry's activity, and that such power would be bound, under our understanding of business ethics, to be used with scant consideration for the welfare of employes or the general public. Our reckless individualism was changed into rampant, large scale industrial cannibalism.

All the king's horses and all the king's men cannot restore competition. It is dead. Employers' organizations are here to stay. Permeating the upper class is a consciousness of kind that must now be accepted as a basic fact in our social life. Our industrial plant, if it is in step with the marching battalions, will find its work as a necessary part in the whole industrial process of the country, coming more and more clearly to be recognized as one process. And beyond this is international organization of the markets of the whole world, put through by the representative men of modern industry in the better developed countries.

So much then by way of fixing the status of employers toward each other. What now of the relation of the employers toward their hired men and women?

The idea which customarily obtains among employers or, let us say, but recently obtained, is that labor, like other commodities, should be bought in the cheapest market and should be expected to render the utmost service for whatever wage is paid. Labor power was considered as more or less of an inanimate thing, entirely divorced from the person of the possessor, with no more sentimental attachment than exists, say, between a fisherman and the day's catch he is trying to dispose of. The individual workingman was supposed to offer his power to create wealth entirely apart from his procedure as a human being and entirely without regard to what any other workingman might do. The whole arrangement was to be a barter of equal values between the single employer and the single worker.

That explains why collective bargaining and recognition of the [illegible]ades union were fought so bitterly. And it explains, by the [illegible]ame token, why the worker holds to these principles so tenaciously, until now they are coming to be generally accepted. He has learnt by uniform experience, that standing alone he is helpless. His thin reserve of savings, if he have any, is pitted against the employer's fortune and banker's aid and the employers' association. It is an altogether unequal struggle. The worker almost invariably loses.

The employer likewise paid for his obstinacy. He had to contend with constant derangements, the uncertainty of the plant running at all through the succession of strikes and lockouts, breaking out here and there, in the most unexpected directions. He faced continual disruption. The workers not only had no interest in the plant; they regarded the employer as a hard taskmaster, their sworn enemy, who swung the whip of hunger and against whom any retaliation was fair.

Only slowly did collective bargaining meet with favor as a possible stabilizing factor in industry. For industry itself is not stable; it is in motion all the time. The organization of large bodies of men into unions means the lessening of petty strikes. Mutual agreements become easier to make when each side knows the strength of the other. Labor leaders feel the responsibility of the large armies they lead; they are conservative, rather than radical, as a consequence. Instead of a regular patter of trivial troubles, there are a few but decisive contests.

The reason collective bargaining is not turning out to be a panacea for labor troubles, is because the very consciousness of solidarity among the masses is creating a new sense of dignity in the ranks that is nothing less than an elemental religion. More often than heretofore, there are sympathetic strikes and general strikes, not for economic causes, but for social consequences. Whereas the contest of an individual craft organization may be regarded as purely selfish, in the later development the immediate concern of the organization is sacrificed for the benefit of others.

Of course, employers not at all involved in the point at issue are alike victims with their men, for the sake of the larger stake involved. The men do not halt at this, because they are on a crusade. Heretofore they have hardly had a sense of their importance in society. They did not know what part they persona played in the industrial process; they had no interest in the product; they were kept in ignorance as to the various parts o the industrial mechanism; they worked only for the pay they got. When the week's work was done, their connection with the job was severed. They thought of most anything else.

The war altered this to an extent. "The armies back of the lines" counted. In the munitions, shipping, war material and other essential industries, the workers saw vividly enough the interrelationship between their work and the conduct of the war. That relationship was most intimate.

It is this experience of labor as labor in the war, together with the marvelous spread of organization which has followed the war, that is giving the worker the new confidence in himself and his fellows. The general strike is, therefore, on the order of the day. It is something of a known, as well as unknown, quantity. It may be expected to appear at frequent intervals. It will have to be dealt with.

This same confidence and sense of solidarity is working around to the assuming of a different attitude by the worker toward his job. He is willing to cultivate the acquaintanceship of the plant. He would like to know much more about it. To be sure, this is not from altruistic motives, seeking only the good of the employer.

It is not even what the employer, in America especially, is prepared to have. He rather resents it. He is willing to conduct his business as a private matter.

In England, however, the new attitude is catching hold of every industry. Through the Whitley Councils, the men have before them the financial information of the plant and the industry as a whole, and the dealings between employers and employes is upon the basis of the open books before them. There was hardly a hint of this in the adjustments of the War Labor Board here, which took into consideration only the prevailing cost of living as a foundation upon which wages should rest. But it was hint enough. It marks an epoch in industrial adjustments for the future. The day is near when labor in this country will ask that the employer lay all his cards upon the table.

This brings us, quite naturally, to the question of the relationship of the plant to the public. Here we sail a still less charted sea.

How has industry been conducted heretofore with regard to the public? All too frequently, the object of the industrial promoter is to produce an abundance of cheap wares, to flood the market, to undersell his competitors and clean them out. As accessories before and after the fact, there has been plenty of short measuring, adulteration and substitution, corrupting of agents and branches of the government, and the beating down of wages and conditions of labor; all for the end of selling at low prices. Goods were produced altogether for sale and profit, instead of for use and service.

With the bringing of success, other motives entered into the operation of industry, some good and some bad. As a whole the aims actuating the promoter were elevated; it was found to be quite as profitable to make better goods and sell them for higher prices. It was also found that the cheapest paid labor is often the dearest as measured by the output. And it was found that industrial engineering proved the shorter workday to be more productive than the longer one. The employer revised his rusty economic maxims.

But as capital grew in influence, as a result of its inherent power, that influence was brought to bear against labor by speeding up and such "Scientific Management" as wore the worker out more quickly, and by even more arrogant disregard of the safety and concern of the public. The appetite for dividends grew by what it fed on; before the Napoleons of finance always loomed new worlds to conquer. All became fair in commerce as it is said to be in love and war. Commerce became war.

The public had been bred to the idea that upon the success of business rested the prosperity of the nation. It was the "American idea," coined by Henry Clay to popularize the protective tariff. What then could the public think and do?

The attitude of the public toward business fluctuates between hostility and good will. On the one hand are the pure food laws, the measures for conservation of our natural resources, the legislation regulating the employment especially of women and minors, the general theory of using the police powers to safeguard the human factor in industry, the public service commissions and the readiness to pry into the affairs of any enterprise brought under suspicion, with a latent feeling that the enterprise will be considered guilty until proved otherwise. On the other hand, from capital has risen the constant cry that it is being driven out of business. From our statisticians have come the data that this nation is wealthier than all the other first class powers combined.

Our participation in the war, the taking over of the management of the railroads, telegraph and telephone lines by the federal government, as well as the creation of a shipping industry, brought home for the first time in actual shape the problem of further government ownership. It now hangs like a menace over the more prominent industrial combinations. Judge Gary, speaking for the Steel Trust, frankly faces it as deserving of immediate attention. Ex-Senator Pomerene openly charges that the railroads have refrained from sinking money into expensive improvements, because they regard nationalization as imminent, and they hope to be bought out upon their investment paper, and not the physical valuation of their property. We recall that Louis Brandeis, now Justice of the Supreme Court, easily won a receptive ear among the public when he declared that the railroads could be so run as to save a million dollars a day. We assume the government has proved its case against the big packers, and we are ready to have the nation exercise a greater measure of control over its food supply. The issue seems to be resolving itself as one between the relative merits of government ownership as against government supervision. America is still keen for saving its national ingredient of individual incentive.

At the same time a further human, as well as economic, realignment is taking place. The centralization of industry and power, the splitting apart of poverty from property, the swelling of fortunes which the excess profits taxes did not reach, are making the industrial question more acute. It is becoming more apparent that the Great Unknown, the general public, is assuming tangible shape and breaking up into economic classes with recognized particular interests, often conflicting. Income and inheritance taxes of more pretentious proportions are levied and taken as a matter of course. The bounding cost of living brings about a community of feeling among that part of the public whose purchasing power is restricted. The farmers in the Middle West, the culture bed of American progressivism, organize the Non-Partisan League, have already won one state government, and enact a whole raft of legislation described as state socialism. And they promise more of the same.

Beyond all that, the entrance of labor as a special factor in the war, in this war upon European soil, stirred it to an appreciation of national and international questions as never before. Labor now revalues former dynasties and diplomacy, and easily passes from a condemnation of political autocracy to an estimate of industrial autocracy. More and more, there is talk of industrial democracy.

The great social fact of our time is this declaration of independence by labor from its previous status as an inferior class. It is asking for a place of complete equality in industry and society. In America it is only on the verge of formulating its actual demands; it is in the stage of coming into consciousness of what it is striving for. It is bound by many ties to the old, while groping for the new.

American labor is not following in the footsteps of English or Continental labor. It is going on a way of its own. Apart from its sense of confidence in itself as a factor in the war and national life, its psychology is fundamentally different. America has not been scarred by the war. Only among the boys who have seen actual service, according to General Leonard Wood, is there unrest.

The nation, as a whole, found work and comfort in the war, out of all proportion to the sacrifices and sorrows of the European peoples. Moreover, American labor is accepting work in a tight market. Our unemployment has not been considerable enough seriously to cut prevailing war wages. And the possibility of extensive emigration from America of alien labor may improve the situation here still more.

We are, therefore, facing an entirely unprecedented national problem. The elements of uncertainty were never so plentiful or so powerful. What great trials are before us can only be conjectured; what critical moments we are about to go through may be imagined. We are in the travail of a thorough social readjustment. In contact with social forces of such magnitude that the possibility of giving human direction to them seems entirely out of reach, what can we say to those who would formulate the aims of our industrial plant but this: So to conduct it efficiently and wisely, with such concern for the service of the public and self-expression of the workers, that come what may, its permanence is assured as indispensable to the welfare of society?

# On the Motives of Industrial Enterprise[1]

By B. Preston Clark

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IT is to me a privilege to discuss briefly this subject of prime interest to us all. Because I am entirely sure that however much we might differ in methods, the main purpose of our lives is largely the same. There may be differences between us; there should be no antagonism.

In approaching any such subject, our attitude is apt to be based on certain deep-seated beliefs, which have become part of our life and of our thinking. This is peculiarly true of the subject of this paper. Before we can reach any conclusion we must go, so far as we are able, to the root of the matter. We must be true radicals. For the true radical is, I think, he who tries to go to the root, rather than he who would pull up the plant, root and all. So I will try to give my thought on four points.

1. What the nature and the ultimate object of industry is.
2. What the industrial struggle itself really is.
3. What should be one's attitude toward organized labor?
4. Can industry be made democratic and remain efficient?

What then is the nature and the object of industry? A generation ago an industrial unit was conceived of largely as a money making machine, and this had been increasingly true for nearly a hundred years, as modern industrial units grew in size, and as their money making capacity was realized.

The great business men of forty years ago believed that we must build immense industrial machines, and they were built. Huge, forceful, and yet necessary, as is every step in the world's progress. But they met with unexpected obstacles in legislation, that crystallization of public opinion, and in the great labor unions. Many of them broke down on the human side. Sometimes the machines grew bigger than the men who ran them, and they smashed. Natural enough, for after all, the size of any industrial unit is apt to be measured by the length of one man's shadow. Many of them survived and grew in power.

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Today a new conception has arisen. An industrial unit is conceived of by some of us today, not as a machine, but as an organism, something alive and growing, with a wise understanding, almost an instinct, for the newer industrial knowledge. This conception of an organism is valuable and suggestive, nor does it mean the elimination of that magnificent genius for individual leadership which has made American business what it is.

For what is the law of life in an organism? Take the human body. The head, the hands, the eyes, *must* recognize each other's value. They bandy no words as to class distinctions; and it is a primary fact of human consciousness that no part of the body, or indeed of any organism, can be damaged without injury to the whole.

I need not make the application to industry, for you will already have made it yourselves. If the industrial unit is in its essence an organism, with mutually interdependent parts, then its ultimate purpose is self-evident. However little in the past this may have been recognized, it is yet true that that purpose *is* the highest development, physical, mental, moral and spiritual, of every person connected with the organization, through the accomplishment by that organization of its special social function in the most perfect possible way; and also and most important, some fair adjustment of the equities of those within the organization (its management, its workers and its capital) with the equities of the great public which it serves.

Some incredulous spirits may say that this is not an accurate photograph of business today in America, and I frankly allow that we are far from the ideal. We in America are wonderful mechanics; we have learned some of the elements of industrial chemistry, but we are just learning the ABCs of the great social chemistry and the human values, through which some day the imagination and the united good will of all the workers will joyfully contribute to the success of a business. It is true that we have yet far to go. But I also submit that we are not the only human activity which still sees its goal far above it. We partly are and hope wholly to be.

My application to industry may sound novel, but in the thought itself there is nothing new. It is as old as the world. From the dawn of humanity, to accomplish anything in life, two things have been necessary. There must be the vision. The architect, the sculptor, the statesman, each one of these must have in his heart a picture of the splendid thing he means to create. But that vision will help the world not at all, so long as its exists in his mind alone. It must be made real in the stone, the wood, the marble.

And in industry the vision of men and women, working happily and gladly under right conditions, at something of use to the world, and in which they are themselves interested; such a vision, I say, must be made real through such wise humanity and keen intelligence as will result in the business maintaining itself industrially. Playing the game squarely and playing it hard, they would call it in the West.

The best human accomplishment always has been and always will be, some vision of truth or beauty, transmuted into fact, through hard, sustained effort. Such is my thought of the essence and the purpose of industry, and so conceived it is of fully equal dignity with any art or with any science.

For while the medium of the artist is wood, stone, marble, that of industry, rightly conceived, is human nature itself, with its lights and shadows, its heights and depths, its sunlight, its moonlight and its darkness; and always with capacities for the best which we never fully grasp. The uncommon quality of the common man is a constant miracle.

You may say, and you will say with truth, that industry has been, that it is indeed still, thought to be largely concerned with the making of money. But what is happening is this. Dr. Felix Adler saw and stated his conception of industry, which I have largely used, sooner than most of us, yet all over this country today, wise leaders of industry well know that in order to make money they must regard the human factor, that unknown quantity X on which so many businesses have suffered shipwreck.

The men of the future see that industry and humanity are inseparable in any successful business, and well it is that this is so. It is as a practical business man that I speak, and not as a theorist. Let me say that in my judgment human nature is alike the raw material of industry, its finished product, and the means through which the process takes place.

Now let us turn for a moment to consider what this industrial struggle really is. Many good people never sense what it is all about. It has been of course a battle, and in the past, as the history of trade unionism shows, it has been too much a battle between classes. Hard fought and with varying fortunes, and resulting today in two enormous forces—organized labor and organized capital—striving, with an awful waste of effort, like two gigantic tug of war teams.

Here again we must get a new conception, which comes with our increasing democracy. Class lines are being obliterated everywhere. The robber baron has been put out of business by the ballot, the martyrs are no longer tortured, the slave has fought his way to freedom. Freedom, physical, religious, political, is to be the heritage of the world, though more slowly than many of us would wish.

Today the fighting line of this great struggle for freedom is in industry, in the great workshop of the world, where most men and many women spend a large part of their waking hours. And this struggle, my friends, is increasingly, and because we are gradually becoming truly democratic, not between the classes. It is between the men and women of every class who stand for a broad and human sympathy, for a constructive democracy, and those darker hosts who through ignorance or through malice, would set class against class. The cleavage is vertical, not horizontal; and you will bear me out when I say that each one of us today finds allies, and each one of us finds opponents, in our own class, whatever it happens to be, and in every other class. For no special group in the community has a monopoly of all the good or all the evil. Human nature as a whole can be trusted. It is the small minority, who play the game unfairly, who make the trouble for the rest.

To think clear of class and with real democracy, is in my judgment a prime requisite in approaching any human question, and I wonder whether you find this as difficult to do as I do.

To size up a man as a man, independent of those accidents by which our judgment is so apt to be affected, is far from easy. We habitually group people in our thinking. This is natural and proper, but our error lies in our believing this grouping to be fundamental. Employers. Working people. These are hardly more than catch words. The only human grouping which is fundamental, the only one to which when we are at our best any of us wish to belong, is that which includes all who walk upon two feet.

The ability in our thinking to pass freely over and through the barriers of class is of value, while inability to do so dwarfs and stunts a man's thinking.

The following story so well illustrates the limitation of purely class thinking that I must tell it.

A tailor was standing listening to the thunder of Niagara, in the mist that drifts eternally below the horse-shoe falls, and his only remark was "great place to sponge a coat." This story is not told at the expense of the tailor. It is told to help myself to remember how easy it is one's self to illustrate the Chinese proverb that, "A mouse can drink but his fill from the mightiest river." That one can only get a pint into a pint pot. Or as Carlyle used to put it, "The eye sees in everything what the eye brings with it the power of seeing." And of the many things that cloud our vision, class thinking is one of the most insidious.

Let us turn now from considering the nature and object of industry and the character of the industrial struggle, to organized labor. I approach this subject with a proper caution.

Two men were hoeing in a field in Florida. To them comes running a small boy, excited and out of breath. Says the boy, "There is a man in the marsh over here drowning, won't you come and help get him out?" The men stop and lean on their hoes. One of the men asks, "How deep is he in?" And the boy gasps back, "Up to his ankles." The men start hoeing again, one saying, "Oh, he will get out all right by himself." But they quickly drop those same hoes, and run swiftly across the field to the marsh after the boy has said, "Yes, but he's in head first."

It is indeed easy to get into the position of that unfortunate man in approaching the labor question.

I am neither for nor against organized labor. I am not indifferent to it. I do not fear it.

Organized labor exists largely because it has proved a practical expedient by which men could, through collective bargaining, get results in hours, wages and living conditions, which they had been unable to secure as individuals, and which they would, in a more ideal and human world, have secured as individuals. I would not wish to see organized labor lose anything of that for which it has struggled so long and so hard, nor would I wish to see it weakened until working standards can be maintained by some other means.

On the other hand, a condition like the present, where too often labor and capital are engaged in a gigantic tug of war, means great waste of effort, and of money or stored up labor. It is not an ultimate solution. Simply a milestone in the world's history, and a very real and valuable one.

I am in favor of a fair honest day's work, but I am against any system which speeds up labor beyond what it can bear, by cutting the piece work rate, by long hours, or by too hard conditions. Equally am I against any system which sets a maximum day's work which shall not be exceeded by anyone. The best American living conditions must be maintained, and a wage which will make such conditions possible for the workers.

We must have increasing democracy in industry, but we must maintain leadership. Increasing coöperation between the employers and the workers will, I believe, point the way toward a condition far better than the present struggle between organized labor and organized capital.

Every employer who so treats his employes that they will not feel the need of organizing, will hasten this better day. Every employer who, by opposition or hostility, open or covert, to every form of collective bargaining or of shop committees, leads them, forces them to organize, has his face turned toward the dead past.

Every labor leader who tries with vision to work in coöperation with the best employers, will hasten this better day; and every labor leader who by thought or act sets class against class puts this day back.

In this matter of organization my belief is that if men are fairly treated, if the employer knows their desires and their needs, and meets them to the best of his ability, if there are not too many workers, so that he can keep really close to them, they are not apt to organize. In nearly forty years the working men with whom I have been closely associated have never organized. And at the same time I should never, and I have never opposed their doing so, should they feel like doing so.

Before drawing my conclusions, I wish to say a word of the time in which we are living. It is a new world, plastic as at the

Creation. Someone said the other day, "It is the year One." The war is, we hope, passing into history. "The tumult and the shouting die, the captains, and [very especially] the kings depart." And from this world struggle, two great human facts emerge, like mountain peaks in sunlight: the increasing power of the people and the value of human leadership. As these two powers combine or do not combine, so will the social structure in city, state or nation, be safe, constructive and beneficent, or dangerous, destructive and explosive. Either is possible, one of them will become the reality.

So the real task, the great adventure, is ahead of us. Like old John Paul Jones, we have just begun to fight. And what is it for which this country must work? It is for the same united will in peace that we had in war, and through which we did our part in winning it. Impossible, men say. But America has done the impossible in the past two years, and she will do it again, and yet again. And how shall we get that united will?

We shall get it through fine leadership, sympathy, coöperation. Coöperation, that factor in evolution which, as Prince Kropotkin has so well shown us, is at the last stronger even than the reign of tooth and claw. You are familiar, I know, with those wonderful contrasts he draws between the tiger and the reindeer, between the eagle and the ducks, between the carnivorous beetle and the bees and ants. In each case the creature which maintains itself by tooth and claw, is a rare creature, it occurs singly. In each case the harmless but coöperative race exists in hundreds, thousands, millions. It may well be that this is one of the lessons of the great war.

Coöperation—its power is colossal! Out of these forty races that throng America, each with its own special and splendid gift to make to the life of this great nation, there will come such a welding together as the world has never seen. I have that faith. You have it too.

We are at the last a unit, with a common future and with common problems. On our mutual understanding depends the future of our nation. "United we stand, divided we fall." These people, many of them so untaught and simple, many of them of the highest degree of intellect, and all so diverse, are very splendid. They make the bone and sinew of America. As one thinks of our country today, he remembers what Abraham Lincoln said, that "God must have loved the common people very much, because he made so many of them."

I know and have always lived close to working people: this has been, I think, the greatest privilege of my life, and always my faith in them grows stronger. Never have they played me any mean trick, and the remembrance of their splendid loyalty and affection is always with me.

My conviction is strong that we do not need an American Labor Party. Such a party would in my judgment emphasize those class lines, which in industry and in life, we must work clear of. It would not be truly democratic; not in line to produce that united will which we need above all else.

I have spoken of the cramping character of class thinking. That in us which rejoices because we are something or have something that another human has not is about the meanest part of us; it lies at the root of pharisaism. Let me illustrate with the following story.

When I was a boy, so many years ago that I would be ashamed to say how many, I saw at a circus a race of monkeys on ponies. I can see them now, tiny wizened creatures, each looking back with joyous and derisive grimace at the next behind, the last little monkey of all making an extra ugly face though it was directed at vacancy. That sort of attitude allies each one of us, should we ever indulge in it—which far be it from me to suggest that we ever do—more closely to our arboreal ancestors, than we are apt to realize.

Class thinking is of the past. It is for each one of us to choose whether we shall look backward, like those monkeys, to those jungles from whence so long ago we came, or whether we shall, in faith and hope, and in a common comradeship, turn our faces forward whither we are bound.

If my conception of an industrial unit is sound; if it is in truth an organism, then in any given concern the common interests of the workers and the employer far outweigh their opposed interests. The old argument used to be that if there were a dollar to divide, there must be a struggle between labor and capital as to the exact number of cents that would go to each. This simile is rather crude, and lacking in imagination. If you and I are standing on a street corner, and grasped in our joined hands are one hundred coppers, any struggle between us will surely result in some falling into the mud, to be recovered with difficulty, some perhaps going down the catch basin, not to be recovered at all. Net loss to us both. On the other hand, if we use our heads to see what we can together do with that dollar, it may easily become $1.10 or $1.25. That dollar may in fact become almost anything. It has the possibilities of fairyland under the magician's wand. And I am not talking fancifully. It is sound, practical business. It is what actually happens.

So any social alignment in America today, any crystallization, which emphasizes and strengthens class lines, is out of date. It runs counter to the nature of industry itself, as we are beginning to see it, it runs counter to those great tides of democracy against which anyone will pit his strength in vain. And, it would almost of necessity turn the thoughts of its members too much to the benefits which a single class might gain from industry, instead of leading them to see that the common welfare of all must be our real purpose. Such a party would simply invite counter-organization, also along class lines. Still the thinking would be horizontal, outward.

As I see it, what we must work for in industry is a genuine joining of forces, a fusing of the best leadership among all the groups, very especially among the business men and the leaders of labor, a tackling of the problems jointly. That sort of effort brings results every time; it sets forward democracy, without jeopardizing leadership.

As I am almost as much of a westerner in feeling as I am a Massachusetts man, I know you will pardon my giving one illustration of the sort of result such a fusing of leadership may bring.

Early in the war there was established in Massachusetts a commission with the chairman of our State Board of Labor and Industry as its head. Its other members were in equal numbers representatives of labor and of capital, who before being finally chosen were known to be mutually trusted by one another. The purpose of this commission was to decide that delicate question, when and how far our labor laws should be relaxed during the war, especially as regards the hours and conditions of labor of women and minors. In 547 cases passed on, we did not have one disagreement.

I will go further, and say that in my judgment wherever class lines are ignored, and management is sound, you will find industrial strength. It has been my privilege to be connected with a mining company operating in Mexico. About ten years ago we went there. We have tried to treat the Mexicans as human beings. We told them that we did not believe the current legend that no Mexican was worth more than two pesos a day, that with us if a man did the work, he would fare just the same, whether he were American or Mexican, that in all ways we should respect them and their wives and families as we would our own. We went to it as a human proposition. The effect was prodigious.

This attitude brought out the best there was in those people, and the best there was in us. For eight years and a half of revolution, under those southern stars, our mines and mills have never stopped. Today 7,000 men operate them, of whom 57 only are Americans, less than one per cent. Mexicans hold important positions all along the line. I could spend an evening telling you that story. How we have fed them, fought typhus and influenza with them, fought everything with them, and how they have done their part like men. Two things I must say. After Vera Cruz we insisted that all our Americans leave Mexico. The properties were left in absolute charge of Mexicans for eight months. They stole nothing; they allowed no one else to steal anything; they operated the plants successfully, and returned them to us in as good condition as when our Americans came out.

On another occasion $250,000 in bullion was stolen from the company. Our 6,000 miners of their own motion saw to it that that bullion was returned within twenty-four hours, and within forty-eight hours it was on a Ward Liner bound for Liverpool. Do you wonder that I trust them?

I want to see leaders come out of the ranks of labor as well as from other groups, and I believe this will happen. The fable of the earth giant Antaeus is still true. Strength is at last in the people. But I believe that it is much more likely to happen if the best brains and hearts in industry, the men of vision and humanity—no matter to which group they belong—keep close together, keep in step, and thus learn from one another and learn to trust one another.

Mackenzie King has said that in the past the relations of capital and labor have been those of fear born of mistrust, that in the future, if industry is to serve humanity, they must become relations of trust inspired by faith. He further says that the difference between heathenism and Christianity is that the one is founded on fear, and the other on faith. This is worth remembering. It is fundamental. And the mutual faith will not be at all strengthened either by labor parties or by capitalistic parties, or by any parties with class as their basis.

One other thought. Believing as I do that organized labor as a great conservative force should stand firmly today, I would not like to see it take a position which is more in line with the thinking of a generation ago than with that of the future.

Let me say in closing that these views are not mine alone. Were they so I might hesitate to advance them. It was my pleasure to sit with Henry Endicott on many of his War Arbitrations, and thus to come into intimate contact with many leaders both of industry and of labor, and what I have tried to express is, as I have found it, the belief held in common by the wisest and most constructive, and let me say, the most successful men of both groups.

# The Community Relationships of an Industrial Plant

By J. C. Heckman

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While a general appreciation of the fact has been slow in reaching many industrial managers, it is scarcely open to argument that one of the greatest, if not the greatest, assets of any industry is a personnel of thoroughly contented employes. It is perhaps not quite so well appreciated even by the more progressive employer, how vitally the contentment of his employes is influenced by their environment outside of working hours.

Much time and thought have very properly been devoted in recent years to improving working conditions in manufacturing plants. Not nearly so much attention has been given to the conditions surrounding the employe outside of the plant.

An employe of a manufacturing plant, working eight hours a day and losing no time from sickness or other causes, spends approximately 27½ per cent of his time in the factory; the other 72½ per cent is spent outside. The manner in which this major portion of the employe's time is spent and the influences exerted upon him by his environment, are of overwhelming importance in determining the character of the employe and his value to the industry. The effect of the nature of a community upon the welfare of its industries, therefore, can scarcely be exaggerated.

A manufacturer having his plant already built has no opportunity to select a community presenting the most favorable conditions for his employes. In order to get the best conditions, he is restricted to the slow and difficult process of influencing the progress of a community along desirable lines. The manufacturer, however, who is about to select a location for a new plant, has before him the opportunity of making a selection which will provide his employes with the best possible conditions under which to live. The opportunity is too valuable to be lightly dismissed.

There are notable instances in which an industry has been located outside of an existing community and has created a new community adjacent to its plant. In some cases, economic manufacturing conditions compelled the location of the plant in an unsettled region, but in others such a location was deliberately chosen in order that the industry might create its own community and control its character.

There is room for wide difference of opinion as to the wisdom of attempting to create a manufacturing plant, and, coincidently, an industrial community around it. There is room for still greater difference of opinion as to the wisdom, or lack of it, dis[illegible]ayed in the developments of some of the communities already [illegible]tence. Such enterprises are only possible in connection [illegible]ry large plants and under exceptional circumstances. As [illegible]e not possible for the average manufacturer, they are rather [illegible]e the scope of this discussion. The instances where an [illegible]stry has deliberately elected to create a community in the [illegible]erests of its employes illustrate the importance of community [illegible]lationship in the eyes of some managers.

In order to view broadly the entire subject of the relations [illegible]etween an industry and its surrounding community, it is necessary to review the elements in the community which materially affect or are affected by an industry located in its midst. As has already been pointed out, these influences are principally effective through the personnel of the industry and they will be first considered in this connection.

### THE HOME

The most important factor in the life of an industrial worker is his home, and perhaps the greatest influence that a community can exercise on an industry lies in the opportunities which it offers to its personnel to provide themselves not only with comfortable and sanitary but also attractive and beautiful homes. Nothing so stimulates a man's self-respect as a home in which he can take pride. It is particularly desirable that this home be a detached or semi-detached house and that the premises include space for a small flower or vegetable garden. Such a garden is a great inducement to the tenant to occupy his leisure sanely and in a manner which conserves and builds up rather than dissipates his energies.

The most stable and satisfactory workers to any industry are those who own their own homes. This fact has been so clearly evident that many industries provide plans under which their employes may acquire homes on easy terms. A very large percentage of the workers, of course, will not own homes and the growth of the home owning group will be slow, although it can by proper encouragement be made steady. The availability, character and prices of suitable rented homes will, therefore, be the major factor in the home supply situation.

The home supply value of a community can be briefly summarized to be made up of the following factors: character and extent of residential districts and their relative location to the pla[illegible] transportation facilities between these districts and the [illegible] values of real estate and cost of building; supply of ho[illegible] rent and rent costs; building loan associations and other fa[illegible] for acquiring homes on easy payment plans; the public [illegible] record of the community.

## RECREATION

Possibly the next important factor affecting the contentment of employes is the opportunities which the community offers for recreation. Of these facilities, public parks are, perhaps, the most far-reaching. Not only should there be a well organized system of public parks within easy transportation distance of all portions of the community, but the administration of these parks should energetically endeavor to make them serve the public in the broadest possible manner. There is a growing appreciation in this country of the possibilities to the public of properly administrated park systems, particularly along the lines of publicly directed games and athletics for the public in general. The ideal community would be one which is keeping well to the front in such movements. Included in the public park system, of course, should be the children's playgrounds, well distributed through the city and supervised by play directors, and public bathing beaches with bath houses when water-front facilities are available.

In addition to the public parks, the presence and character of the privately managed amusement parks have an influence. If these are of the proper character, they are an asset. Too frequently, however, they must be classed on the other side of the ledger when considered in connection with the benefits which the employes obtain from patronizing them. A popular and well patronized baseball team is a most excellent thing for providing recreation and stimulating civic pride. In addition to the outdoor amusements, the question of theatres, moving-picture houses, etc., deserves more than passing attention. Many communities provide municipally owned auditoriums available for large public mass meetings, concerts, lectures, etc. These must be considered also as a distinct asset.

### EDUCATION

Another important side of the community is the educational facilities which it offers. Nearly every worker of the desirable sort is anxious that his children shall receive better educational advantages than his parents had. Such people are vitally interested in public school systems, and the ability of the plant to obtain the best type of workmen is often greatly affected by the [illegible]aracter of the public schools which the community can offer [illegible]h workmen's children. These schools properly conducted [illegible]come the training areas for the next generation of workers. American manufacturers are appreciating how woefully they have neglected their opportunities as well as their duties in this connection. In addition to the regular public day schools, the question of night schools and continuation schools for younger employes who are already at work and the schools for teaching English and American ideals to foreign employes should also be considered. Public libraries, public museums of art and natural history, free educational lectures and concerts are also important as offering facilities for ambitious employes to continue and improve their education.

### ADEQUATE PUBLIC SERVICE

The character of what may be broadly included in the term "Public Utilities" has tremendous influence affecting the contentment of the employes. We are hearing much these days on the subject of such public utilities, as street car service, electric light and power, telephones, gas and water service. The effect of all of these on the lives of every dweller in the community is felt daily and it is important that these utilities in the community should render good service at reasonable prices.

In addition to these enterprises, we may include in the term, many other institutions which serve the public generally and add or detract so much to the citizen's joy of living. For illustration may be mentioned the retail stores and their prices, markets, savings banks, hospitals, newspapers, etc. Certain cities are noted for their retail stores and superior shopping facilities; while others are famous for their markets and abundance of cheap and excellent produce. The manufacturer is fortunate who conducts a plant in a community that can offer a low cost of living.

## THE CHURCH

It is, perhaps, a matter for concern that we are apt to give little consideration to the influence of the church on the industrial worker and through him on his industry. It will be admitted that the influence is not so pronounced as it might be. Nevertheless, it is there and a sane, steadying, helpful influence it is generally found to be. The churches as a factor in the community should not be overlooked.

## CITY GOVERNMENT

The happiness of a citizen is, of course, affected by the nature of the government under which he lives. We have a variety of types of city government in this country. The type is more or less immaterial if the government is conducted broadly in the interests of the citizens. On one side of the ledger are the taxes collected from the people; on the other, the services rendered in return for the taxes. There is an ever widening field of activities opening out before our communities into which the citizens may enter in common through their city government. The ideal government is one under which not only are the accepted activities comprised by the departments of education, finance, public works, health, police and fire, parks, etc., being efficiently directed, but also one which, with a watchful eye on the city finances and a thorough weighing of the cost, is intelligently reaching out into fresh fields of community activities.

That community is fortunate in which the local politics have been divorced from national party politics and local policies are viewed in the light of local issues only. Under these conditions, the citizen is encouraged to take an interest in his local government by the presentation of its questions unclouded by extraneous issues and a better government and a better citizen result.

## CIVIC SPIRIT

Closely allied to these matters is that imponderable quality known as civic spirit. Difficult to define, its presence is instantly recognized in the atmosphere of a really alive community. Many [illegible]ities have a distinct universally recognized character all their [illegible]wn and if that character is good, it is perhaps that city's greatest [illegible]sset. This civic spirit is frequently expressed in patriotic cele[illegible]rations, community singing and Christmas trees, neighborhood [illegible]reet dances, pageants, support of local baseball and other [illegible]hletic teams. In a more substantial way it is evidenced [illegible] existence of and support given to associations striving for [illegible] government, for increased educational opportunities, [illegible]ble organizations, patriotic organizations, concerted efforts [illegible]d city planning and the development of the æsthetic side [illegible]e community.

[illegible]an is so constituted that he is happiest when striving ear[illegible]stly in an altruistic endeavor. The citizen who takes a pride in [illegible]is community, the citizen who is working for the improvement of some feature of that community, be it in ever so minor a capacity, is a better citizen and a better employe. A community that inspires to such endeavors is a good community in which to establish an industry.

## LABOR LEGISLATION

The state government too has its influence on the contentment of an employe. It touches him on many sides: its taxes, its public improvements, its educational policies, its courts, its hospitals and charitable institutions, its political activities. Its most direct influence on the industrial worker, however, comes through its labor legislation and its labor department. There has been great activity along the lines of state labor legislation in the last decade. Much of it, the most reactionary employer must now recognize as sane and beneficial to all concerned. Unfortunately, under competitive conditions, the progressive manufacturer cannot go ahead in his measures for the well being of his working associates much more rapidly than his less progressive neighbor. Labor laws to establish certain minimum conditions of safety and sanitation and to provide prompt and adequate compensation for industrial injuries, etc., with which all must comply, are necessary and have proved to be a distinct boon to workers.

Unfortunately too, a certain well meaning but not quite clear thinking element in our body politic has discovered the immense potential power in labor legislation for utilizing the easily reached, stable, efficient, financially responsible industrial organizations i exploiting its theories of social regeneration. Therein lies [illegible] danger and industrial safety can only be maintained by preservin a happy distinction between sound progress and irresponsib experimentation.

In considering the influence of the state upon its industri therefore, thought should not only be given to its existing [illegible] trial code, but also to the recent history of its legislation a [illegible] character and strength of the influences at work urging and [illegible] ing these measures.

## ELEMENTS AFFECTING INDUSTRIAL FINANCES AND OPERATI

Thus far, we have considered the community influence on a industry as it reaches it through its personnel. Other sides of th business, notably the financial and operating sides, are likewise involved in the reaction.

Before the plant is in operation, the financial side is affected by the price of suitably located industrial properties and the cost of building in the community. Overhead costs are then established that will endure as long as the plant. Other overheads created or affected by the community are taxes (real estate, personal property, income, corporation, franchise, etc.), insurance (affected by the efficiency of the local fire department and water supply), watchmen's service (affected by the character of the people living near the plant and the adequacy of the local police), cartage (affected by the character of the highways), water supply, cost of sewage disposal, etc. The banking facilities of the community are, of course, of major importance to the financial side of the industry. Freight service is, perhaps, the most important local factor affecting the operation of an industry, but express service, mails, telegraph and telephone service also have direct bearing.

Even the climate of a location has an influence not to be overlooked. This factor is almost a determining one in some special industries, but in all industries a long, cold winter means expensive heating plants, a snowy region means transportation troubles and extra costs, and a long, hot season cuts down the attendance and efficiency of the workers.

So complex and inter-related are the various factors that enter to the relations between an industry and its surrounding com- unity that it is difficult to gain a comprehensive view that will clude them all. We know few things absolutely, most of our nowledge is gained by comparison. A manufacturer looking r a site for a new plant compares the advantages and disad- ntages offered by different possible locations. A manufacturer eady located seeks to compare his community with other com- nities in order to ascertain the strength and weaknesses of his n location so that he can take advantage of the former and ve to correct the latter.

### Plan for Rating Essential Factors of Communities

It is difficult to evaluate numerically more or less imponderable alues and still more difficult to weight properly such values so hat each may have its proper degree of predominence in the whole. Nevertheless, even an admittedly crude and inaccurate means of measurement is better than none and, if applied with a full knowledge of its limitations, will yield results of value.

An attempt has been made in the succeeding scheme to present a method for rating the essential factors of communities as affecting an industry and for tabulating these ratings so that their totals for the communities may represent the relative values of these communities as locations for industrial establishments.

It is desired to emphasize the point that the factors listed in this table and the weighting given each are purely suggestive and may well be modified in accordance with the judgment of the investigator to fit a specific study.

A study based on such a rating plan might be found fruitful of suggesting by a Chamber of Commerce or similar body in determining the value of its community as an industrial center.

It will be noted that the factors of a community affecting industry are grouped under eight headings. In the first column opposite these headings is given the maximum weighted value for each group and the maximum weighted value assigned each sub factor in the group, the total of which equals the value for the group.

The second column is headed "Present Value." In this column, the investigator is to note his estimate of the value of each factor in the community under consideration. For obtaining these values, it is suggested that for each item in the list, the observer prepare a scale using for the maximum, not the ideal community, but the community familiar to him which stand highest in that particular quality. Similarly, the poorest community in that quality known to him should be rated zero. I will then be fairly easy to place the community under consideration on the scale. If the observer can place a third communit on the scale about half way between the best and poorest, it wi assist materially in correctly placing others.

The third column is headed "Future Value." This column added to aid particularly in the consideration of a small comm nity where few of the factors mentioned now exist. It is prope judging the possibilities of such a place for the establishmen a new plant to estimate the probable development of the co munity after the plant is established. This column is partic larly advantageous for comparing the desirability of large and small communities.

A city has the great advantage of being a going concern with all, or nearly all, of the activities shown already in full operation. It has the disadvantage that the going is not all in a desirable direction and one industry will have comparatively little influence in steering it. In the small community, however, although few of the desired activities are started, a new industry has the opportunity of assisting in starting these activities and a very large influence in directing their progress. The results attained, however, will only be in proportion to the serious thought and effort which the industry is prepared to devote to this work.

Taking all these things into consideration and entering in the third column a fair estimate of the value of each factor at a period, say five years in the future, the results will furnish a much fairer basis for comparison than the present day figures.

## RATING TABLE FOR ESTIMATING COMPARATIVE INDUSTRIAL CENTER VALUES OF COMMUNITIES

| | Maximum Rating | | Present Value | | Future Value | |
|---|---|---|---|---|---|---|
| Home Values | 200 | | | | | |
| Character and extent of residential districts | | 50 | | | | |
| Location of residential districts relative to industry and transportation facilities between | | 30 | | | | |
| Values of real estate and cost of building | | 30 | | | | |
| Availability of residences for rent, and cost of rentals | | 40 | | | | |
| Facilities for workers to acquire homes (building loan associations, firms building homes for sale on easy payment plans, etc.) | | 30 | | | | |
| Health Record | | 20 | | | | |
| Recreational Values | 150 | | | | | |
| Public Parks and playgrounds | | 70 | | | | |
| Private Amusement Parks | | 20 | | | | |
| Theatres, moving picture houses | | 40 | | | | |
| Athletic and social clubs | | 20 | | | | |
| Educational Values | 200 | | | | | |
| Public Schools | | 70 | | | | |
| Night schools & continuation schools | | 30 | | | | |
| Colleges, business colleges, private schools, etc. | | 30 | | | | |
| Public libraries | | 30 | | | | |
| Museums of Art, Natural History, etc. | | 20 | | | | |
| Lecture Courses (subscription & free) | | 20 | | | | |
| City Utility Values | 150 | | | | | |
| Internal transportation (surface, underground and elevated roads, taxi service, city thoroughfares, etc.) | | 40 | | | | |
| External transportation (steam and electric suburban and trunk lines, good roads to surrounding country, suburban motor express service, etc.) | | 20 | | | | |
| Retail Stores | | 20 | | | | |
| City Markets | | 10 | | | | |
| Financial Institutions (banks, trust companies, savings & loan associations, etc.) | | 10 | | | | |
| Electric & Gas service | | 10 | | | | |
| Minor utilities, telephone, water, sewage, garbage disposal services, etc. | | 10 | | | | |
| Newspapers | | 20 | | | | |
| Hospitals | | 10 | | | | |
| Religious Values | 50 | | | | | |
| Churches | | 30 | | | | |
| Non-sectarian religious activities | | 20 | | | | |

RATING TABLE FOR ESTIMATING COMPARATIVE INDUSTRIAL CENTER VALUES OF COMMUNITIES—*Concluded*

| | Maximum Rating | | Present Value | | Future Value | |
|---|---|---|---|---|---|---|
| City Government Values | 100 | | | | | |
| Governmental morale (honesty, status as to "gang rule," intelligence, initiative efficiency) | | 50 | | | | |
| Tax rates and methods of assessment | | 30 | | | | |
| Public safety (police & fire departments and courts) | | 20 | | | | |
| Note—Other direct activities of municipal government are included specifically under their proper head. | | | | | | |
| Civic Spirit Values | 100 | | | | | |
| Community morale | | 50 | | | | |
| Chambers of Commerce and other organizations working for business prosperity | | 10 | | | | |
| Municipal leagues and other organizations working for political righteousness | | 10 | | | | |
| Charitable and other organizations working for the welfare of the citizens | | 10 | | | | |
| Community celebrations, singing, Christmas trees, patriotic demonstration, pageants, etc. | | 10 | | | | |
| City planning and organizations working for the physical development of the community along efficient and esthetic lines | | 10 | | | | |
| State Government Values | 50 | | | | | |
| Labor legislation and labor department | | 30 | | | | |
| Taxation and assessment methods | | 10 | | | | |
| General public activities | | 10 | | | | |
| Totals | 1,000 | 1,000 | | | | |

## RESPONSIBILITY OF THE INDUSTRY TO THE COMMUNITY

Thus far we have only considered one side of the situation: how does a community influence its industries, what can or should it give them? Equally important is the other side of that picture: how does an industry influence a community and what can or should it give it?

Again the personnel element looms up as the most important. The industry's most profound influence on a community is exercised through the workers which it gathers together and makes dwellers in the community. If the community is to be prosperous, its industries must be prosperous and equitably share their prosperity with their workers. If the community is to be healthy, the working conditions in its industries must be sanitary. If the community is to be happy, the industrial relations of its industries must be most wisely and liberally administered.

On the other hand, it is fatal for an industry to attempt to prescribe the daily life of its workers in the community and outside of the factory. Benevolent paternalism, however well-wishing, is un-American and does not prosper on our soil. The American workman jealously guards his privilege of making his own mistakes and learning how to live by his own hard knocks. The management of an industry can and should do much to create [illegible]ngst the employes a desire for higher and wiser standards of [illegible] point out ways and means for advancing towards these [illegible]ndards and even to assist most carefully in this progress. [illegible]ch efforts always require the most tactful handling. Never [illegible]d the management permit itself to assume an air of superior [illegible]tal or moral elevation; never should the employe be permitted [illegible]eel for an instant that he has sacrificed one iota of his free will [illegible] that he is doing anything for any other reason than that he deliberately wants to do it. The management's part is to create or stimulate the desire and later most unobtrusively to supply the means for its fulfillment.

But aside from its relations to the community through its personnel, the industry will find it good business for its management to enter most heartily into the commercial life of the community. It is a fundamental principle of democracy that united, as a community or a state or a nation, we can achieve results impossible to us as individuals. And so an association of the industrial representatives of a community can accomplish beneficial results for its industries as a whole and for the community, which would be impossible to any one of these alone. Such subjects as honest and efficient municipal government, fair tax laws, wise and equitable labor legislation, adequate service from public service corporations, uniform conditions of labor in the community, adequate banking service, the industrial development of the community, public health, housing, Americanization of aliens, etc., are all subjects to which the business men of a community may well devote their organized attention.

It is not questioned that an active, aggressive chamber of commerce or board of trade or similar organization of the commercial interest of a community is a benefit to the community, and such an organization is active and aggressive just in proportion to the amount of time and energy that its members put into it. An industry has but a narrow conception of its own best interests which does not devote a considerable portion of its energies to such associated work. But the wise industry will exercise care that the organizations it is active in are guarded against short sighted, selfish policies. It is particularly necessary that public bodies of this nature heed the paradoxical truth that unselfishness is the wisest kind of selfishness.

The industry located in a small community where fe[illegible] other industries exist and commercial organizations such [illegible] mentioned are not possible, finds itself confronted with [illegible] opportunity and a great responsibility. On it very largel[illegible] the character and extent of its community's developmen[illegible] must supply the place not only of such a commercial body [illegible] also of many other organizations devoted to the public weal ex[illegible]ing in the larger towns and cities. It must be prepared, therefor[illegible] to give even more of its time and effort to public service than i[illegible] city compeer. Unless an industry is prepared to assume thi[illegible] privilege and this duty, it would be wiser for it to locate in a larg[illegible] community.

The modern industry must consider its community relatio[illegible]ship as one of the vital factors in the conduct of its business. [illegible] must realize that it extends beyond the four walls of its factor[illegible] building into the remotest corners of the community and that to achieve the highest success, it must gain a broad comprehension of its community and, with a nice sense of their relative importance, enter into all of its activities.

# Some Considerations Affecting the Size of Industrial Plants

## A SYMPOSIUM

THE determination of the correct size for an industrial plant is a question which is affected by a larger number of varia[illegible]les than almost any other which the manufacturer must meet. [illegible] answer to this question which would meet the widely varying [illegible]ns encountered in American industry would be difficult [illegible]e from any one source. In order to make the treatment [illegible] subject as suggestive as possible we have secured short [illegible]al opinions from several manufacturers in widely different [illegible] who have been forced to cope with this problem in large [illegible]d undertakings. The fact that each of our collaborators has [illegible]proached the subject from a different angle confirms the wisdom [illegible] this method of treatment.

Because in the past we have not been forced to observe such considerations as that there is a one best size for a manufacturing plant for each given set of conditions, is no argument for believing that we can ignore such factors in the future. The world's industrial methods and technique constantly seek common standards. These standards ever approach a closer harmony with their environment. Those who would excel—even survive—in the world's industrial competition must more and more study the philosophical bases of industry. This question of size then must interest every individual manufacturer, but its importance as a factor in international industrial competition is paramount. Approached from this angle of national—as opposed to purely local—interests many of the efforts made by Chambers of Commerce and Boards of Trade to promote the establishment of manufacturing plants in a given locality do not make for absolute progress. The question of the proper size for efficient operation hardly ever comes up. The days for this frontier type of industrial development are numbered. More and more we must scheme out our industry so as to be able to produce a given unit with the least possible expenditure of human effort and natural resource.

Contributed by JOSEPH W. POWELL, Vice-President, Bethlehem Ship-building Corporation, Ltd., South Bethlehem, Pa.

THE proper size for a manufacturing establishment is an extremely difficult question and one that is not susceptible of any very definite reply. This subject naturally divides itself into consideration of problems of

1—Management
2—Finance
3—Sales
4—Purchase
5—Production

From the standpoint of management, a small manufa establishment under the leadership of a highly efficient hea make a fine showing under given conditions. A large e lishment in the business with a weak organization will make extremely poor showing. The evident advantage of a sm business in efficient hands is the ability of the directing mind to b thoroughly familiar with and to supervise all its details. In a larg organization the specialization that is possible should permit b ability in each of the various departments into which the busin is organized than could possibly be combined in any single pe Moreover, the larger organization is usually better able to o attractive opportunities to the individual, with a corresponding ability to command the best brains in any particular line.

The efficient larger company will generally be able to handle all questions of finance in a more satisfactory and economical way than the smaller company. It is in position to take advantage of general business conditions in its borrowings and in its credits, and also should have a better grasp of the general situation.

In its sales of its product and in its distribution, it is possible for the large company to have an organization covering a field that the small company cannot hope to cover, which is an evident advantage in stabilizing its business over periods of depression that are never equally severe in different areas. The ability of the large company to carry stocks is often a large factor in obtaining business where early delivery is of importance.

On the side of its purchases a large organization has a distinct advantage. From its nature it can evidently command a much wider knowledge of the probable future of the markets than the smaller company, and by purchasing in quantity and for the most advantageous periods, can demand and obtain concessions as to prices that a smaller company can seldom equal.

In connection with production in a smaller establishment, the direct personal contact with employes in an efficient organization is undoubtedly of very great value. It is evident that the most efficient small manufacturing establishment should show better results than the average efficiency that will ever be obtained in any large establishment. On the other hand, recent develop[illegible]ents of representative bodies of employes and employers to [illegible] both ends of the business into closer contact is doing a great [illegible] achieve a substitute for the older personal relations that [illegible] exist in smaller concerns. The far greater specialization [illegible] is possible in production under a large establishment is a [illegible]siderable offset.

Generally speaking, any business large or small will become [illegible]nwieldy if not efficiently managed. On the other hand, very great size is possible without serious loss of efficiency under effective management. That the tendency to "red tape" increases with size is axiomatic, but the splendid commercial results achieved by some of the largest organizations are the best proof that the benefits that come with size offset its disadvantages.

I believe there is today a field for a small as well as for a large manufacturing concern in almost any line. A small concern by achieving the maximum of efficiency will, on the average, work well within the limits that mean commercial success; while the large concern with almost no limit as to size, under proper management, will achieve similarly splendid results from the standpoint of the public, the employes and the stockholders.

Contributed by H. H. TITSWORTH, Chairman of the Board, Clay Products Co., Indianapolis, Ind.

IT would be very interesting to know how many manufacturers per thousand have preserved manufacturing units at the same size as originally built. The length of the list would no doubt compare most favorably with that of republican senators in full favor of the League of Nations.

Let us assume that seven operations is a fair average per plant; this particular number being selected from one industry for the sake of illustration, although any other would do as well. Mr. Average Manufacturer, after proper engineering and other advice, arranges a layout which permits the handling of his materials through these various processes with a minimum of time, labor and space. The layout, of course, shows marked variations in space and arrangement due to the special needs of each process.

The plant is placed in operation, and after the customary period of adjustment fulfills the reasonable hopes of its designers, and functions as a unit.

Two years go by. The newness begins to wear off. B [illegible] shows increase, and the sales curve jumps away from that [illegible] duction. Pressure for production increase falls first up [illegible] executive in charge of plants, coming of course from the ma [illegible] of sales. The superintendent of the plant gets an inkling o [illegible] situation and prepares for the conference that he knows is co[illegible]ing, by gathering statistical information on the various process[illegible] to show the weak point in production. The argument that th[illegible] plant was originally built as a balanced unit is old to him, and he shows the opportunity for a ten per cent increase in some one process, by space enlargement and the necessary changes in subsequent operations by machinery rearrangement and double shift labor only.

The plan is turned down cold by the management, and everyone assumes that the *status quo ante* is as solid as ever. A year later, however, the sales organization meets unusual success in opening up new fields for the same old products, but deliveries on orders in prospect cannot be promised at dates satisfactory to the jealously guarded reputation for service, which the house has always maintained. The conferences of the sales manager, the superintendent and the plant executive result differently this time, on account of the unusual profit apparent in the new business offered, and the plant executive gives his reluctant promise to bring the matter before the president and the directors, who consent to the proposed enlargement.

The damage is done. That plant presents, after the first alteration is completed, one struggle after another to get back to the balance of the unit as originally planned, and never succeeds.

The balance is gone. The "point of saturation" of labor, or of space, or of process speed has been passed, and costs rise above the original figure.

It is doubtful if there is a corporation of any size that has manufactured over a period of years that has not gone through this experience. Until the lesson has been learned that there is almost invariably an immediate rise in costs by physical change in the unit originally laid out with balanced processes, and that here is but rarely secured an increase in output commensurate o the cost of the plant additions, Mr. Average Manufacturer not see the full merchandising problem before him. The of sales and production can merge again only by not ing to market more than the original unit was designed ufacture, or by the erection of a new unit, balanced like d.

ere are countless other advantages to be secured by the last ngement, among them possible reduction in number of oducts made in each unit, new labor markets from the new cation, savings in freight to points of distribution, opportunities or the installation of newer manufacturing methods, and valuable comparisons. The successful operation of one or many units, balanced at time of their erection offers to Mr. Average Manufacturer who has been fortunate enough to live through the period in which he secures his own experience on this subject, two alternatives only, content with present output or new unit erection. He has learned that the middle course does not succeed.

# Planning for a New Manufacturing Plant

By Henry T. Noyes,
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## Part I

1. Preliminary Study of All Factors
2. Methods of Planning or Engineering
3. Advantages of the Methods
4. Plan Before Buying Site
5. Provision for Expansion
6. General Type of Buildings

*Preliminary Study of All Factors.* In planning for a ne
facturing plant, all factors should be taken into consi
in advance of any action. The selection of a site should po
not be made until after all preliminary studies have bee
pleted, including the study of types of buildings, general d
sions, number of stories for buildings, floor space requ
provisions for expansion, accessibility for employes, transpor
tion facilities and costs. All factors have a definite relation, o
to another, and should be considered together. Many peop
buy land first and are thus limited in their planning afterwards

*Methods of Planning or Engineering.* In order to reach
proper decisions as to the various problems involved in the planning, design and construction for a new plant, the first decision and one of great importance must be as to the method to be pursued in planning and engineering. Four principal methods suggest themselves.

(a) The services of a local architect or local engineer. This may be supplemented by the employment of consulting specialists to pass on various phases of the planning.

(b) The placing of the entire responsibility on one of the large industrial engineering firms who have specialized in the planning of new plants and who generally have large staffs of experts to handle all the different phases of the problem.

(c) The employment of a competent engineer on a salary and on full time to supervise the planning and construction of the new plant. This would rather necessarily involve the use of consulting specialists on architecture, power plant and the various other divisions of the work.

(d) The services of a firm of contracting engineers and builders who would themselves assume responsibility to plan and build the buildings required. This method would probably be considered only where great haste is necessary.

It is wise to give these different methods adequate study and investigation because the decision on this step is of prime importance.

*Advantages of the Methods.* There are obvious advantages and disadvantages in all of the above methods. The opinions of a manager as to how much of his personal time he should and can give to coöperation with an architect or engineer would have a decided bearing. If the manager is interested in detail and has time to coöperate thoroughly, the first and third methods are enerally better and to be preferred. A good local architect r engineer who has time to study the problem diligently will [illegible]ate and give excellent results. There is danger, however, [illegible] ollowing local practice which may not be the best for the [illegible]lar industry. An engineer or architect on salary will [illegible] a more thorough study of general practice throughout [illegible] country and determine what is best present practice and [illegible]t in particular is best adapted to the specific undertaking. e closer the contact with the manager, the better the coöpera[illegible]on and the better the results. Consulting experts can readily e employed to pass on all details. The disadvantage is the ifficulty in securing the services of a man with the proper qualifications and also the greater time required in completing the plant. Where the manager is of the opinion that his time can be more profitably employed with other matters and does not wish to go into detail, the employment of a firm of industrial engineers with a countrywide practice can be well considered. These firms have large staffs of experts and can take the entire responsibility of the design and equipment of a plant. There are also firms that combine the contracting end with the planning end and term themselves contracting engineers. Reference to these will be made later. Better time can usually be made by such a firm but probably at a higher cost.

*Plan Before Buying Site.* After decision has been reached as to the method to be pursued in planning and engineering and after arrangements have been made, too much stress cannot be laid on the fact that the broad general field should be well covered by a comprehensive and thorough study of all details before any decisions are made or actions taken. It may also be wise to consider thoroughly the various general "ideal" plans of buildings and building arrangements even before looking for a site in order to weigh properly the advantages and disadvantages of each and reach intelligent decisions. One reason for a thorough preliminary study of all factors will be sufficient. To secure the best of light, all manufacturing buildings of more than one story in height should run east and west so as to give one long side to north or constant light. An administration building or a one-story building can run north and south, but manufacturing buildings of several stories should always run east and west. Without due consideration of this important requirement, land might be purchased where this arrangement would be impossible.

*Provision for Expansion.* No point is of greater imp[illegible] in connection with a new plant than proper and adequa[illegible]ning for future expansion. This should be considered i[illegible]junction with every step taken—the purchase of land[illegible] installation of sewers, water pipes, mains through the build[illegible] the design of the power plant, and all other features. In plann[illegible] our buildings, we spent eleven months of preliminary work befo[illegible] we bought any land. We secured from the leading insuranc[illegible] groups of the country a list of the one hundred and fifty ligh[illegible] manufacturing plants carrying the lowest insurance in the United States and a list of plants which in whole or in part had been built within the preceding seven years. We visited one hundred and thirty-two of the one hundred and fifty plants and compiled a little summary booklet covering every plant and every essential detail in each plant, thus determining at the time as nearly as possible what was "standard practice" as to every feature. Eighty-nine out of the one hundred and thirty-two concerns told us that their chief mistake, as evidenced in the seven years, had been failure to provide adequately for future expansion in one direction or another. This thorough investigation supplied us with data which pointed out many things as in accordance with "good practice."

*General Type of Buildings.* There are different types of manufacturing, such as heavy and light manufacturing, and these call for different types of buildings. The main point, however, in planning buildings is to erect structures that will meet general requirements rather than to over-emphasize particular processes of any one business. People often make the mistake of trying to build buildings around some particular detail of process which may change before the buildings have been occupied five years. They accentuate the importance of the particular to too great a degree. In most concerns, processes are constantly undergoing variations, the character of the work and even the machinery in the plant are constantly changing, and a building that is built with general requirements in mind is better than one wherein undue emphasis is given to some specific needs of certain processes or features of the business. Sometimes very heavy machinery is introduced. Later on, light machinery may replace the heavier machines. In other words, even in running a given business, there is often a change in methods, and thus in designing a plant it is well to keep in mind the possibilities of changing the uses of the buildings from those for which they are originally intended. Buildings of a general type, well built and well designed, can be utilized to accommodate almost any manufacturing process. While there are industries that require plants suited to their particular necessities, in many industries general types of buildings are satisfactory. In this second class come most light manufacturing concerns. There are industries such as steel and chemical where special types of buildings are obviously required. There are other industries handling heavy iron or steel materials where assembly shops or erecting floors are required with overhead travelling crane. Even in such cases it will be wise to follow general planning as far as possible and to make provision for expansion and to make some allowance and provision for other possible use in the future. This article, however, in its illustrations and particulars, deals chiefly with buildings for light manufacturing, although many of the general rules apply to planning for all types of plants.

## PART II

1. LOCATION AND LABOR SUPPLY
2. RAILROAD FACILITIES
3. WATER SUPPLY
4. SEWER FACILITIES
5. SALABILITY

*Location and Labor Supply.* Most concerns think only of cheap land and go to the outskirts of the city and buy real estate there. In locating a plant, it is very important to consider the type and character of the workers apt to be employed. If high-paid, skilled men are engaged, a plant might to very good advantage be located on the outskirts of a city because men earning very high wages will not hesitate to go any distance to work. Furthermore, such men are home builders and will in time build or secure homes near the plant. In case a concern uses chiefly girl labor, or boys and girls and a good deal of unskilled labor, then great consideration must be given to its accessibility to employes. The importance of this feature can be emphasized when we realize that a concern may pay more in one year for extra wages than the ostensible saving on the cost of the land. The first cost of the land is a very small consideration when one figures what it may be necessary to pay out annually in wages by reason of a wrong location. When employes have to pay sixty cents to a dollar per week for carfare and have to take with them or buy their lunches, they expect to get paid for it. Many instances are known where plants on the outskirts of the same city are paying girls one dollar per week more than are other plants rightly located near the homes of the workers, the difference being due solely to difference in accessibility. Furthermore, people do not like to waste thirty to sixty minutes going to work and a similar period coming home. They give preference to a business which is within easy walking distance. Accessibility thus gives help at a lower wage and gives the pick of the best help. For a plant having approximately a thousand employes, one dollar per week additional in wages because of poor location means over $50,000 loss per year. It can thus be seen that there is an important relation between the land and the wages, for a cheap land location may prove a very expensive one in the end. The low cost of land is not of great importance in locating a new plant and too much stress should not be laid on it. Most concerns are perfectly justified in paying if necessary a very high price for a good location. Of course, land on the outskirts of the city will increase proportionately more in value than land nearer the center, but the latter, if well chosen, should never be worth less and should even increase gradually in value. In general, it may also be said that workers in going to work like to go towards a good section of the city rather than towards and into a very poor section, and other things being equal, this fact should be given consideration.

*Railroad Facilities.* The emphasis on the value of a location on a railroad track or siding is sometimes exaggerated. There are not so many concerns that buy and receive their materials and ship their products in carload lots. Coal for the operation of power plants, however, should always be handled by the carload. The advantages of a location on a railroad are thus not so great as people are prone to think they are. It should be said, however, that frontages on railroads maintain their values best and the salability of a plant is usually materially enhanced by being so located.

*Water Supply.* One other point to bear in mind in securing a location is the availability of a good water supply, both as to quality of water and adequacy of supply. In order to provide adequate fire protection, the insurance companies require that two sources of water be available. In the usual cases, one supply is furnished by the city or community and the other provided by the owner, either in the form of a tank or an underground reservoir with fire-pump.

*Sewer Facilities.* The sewer facilities of a site should be carefully considered, both as to depth and capacity.

*Salability.* In connection with location, future value or "salability" is worthy of due consideration, but this point merely again emphasizes the wisdom of good general planning as against planning for some particular requirement. "Salability" is affected by such things as location on railroad, heavy floor load capacity, general character of design, large window areas and ample provisions for expansion.

## PART III

1. GENERAL DESIGN FOR FUTURE USE
2. GENERAL PLAN FOR GROUPING OF BUILDINGS
3. LAYOUT WITH REFERENCE TO ADMINISTRATION
4. THEORY OF LIGHT
5. UNDERGROUND PIPING

*General Design for Future Use.* In planning a new plant for light manufacturing it is wise to emphasize that the plans should be good for any light manufacturing business and not for the particular business. In most cases it will be found that particular processes in light manufacturing can in truth be well adapted, if not better adapted, to buildings of a good general design than to buildings emphasizing particular design and construction. Conveyor systems can also be installed in the general type of buildings where required and yet permit of future change. The good general design has the great advantage of flexibility, on the whole better adaptability, and is decidedly the best for future changes and future use.

*General Plan for Grouping of Buildings.* This article deals with the assumption that the site selected will be much larger than required in the beginning and thus provide adequately for expansion. This means then that there will be in the end a group of buildings or large additions to those first built. Theoretically, the ideal site would be a perfect square and the plans for future buildings would be such as to fill the square. This might be accomplished by an arrangement of buildings that would when completed be represented, say, by the letters U H E, or by a double H or a double E, and at intermediate stages of construction by the letters I T L F. In all these types of buildings, the departments may be so arranged that materials and parts in process may travel in two or more directions without re-entrant lines on their way toward final assembling. Moreover, different lines of goods can be made in the various wings without interference and brought to a common point for storage and shipment.

*Layout with reference to Administration.* In the case of any light manufacturing business, the choice of a building has to do more with good light and efficient administration than with the processing. Parts are usually small and are handled in large quantities and the shape of the building is not so important in its relation to the handling of the material. In considering the layout of buildings with reference to administration, it may be stated that considering this feature alone the ideal condition for any business would be to have the administration and general departments near the center of the plant. The ideal point of administration, control and direction would obviously be that point nearest to all operations. This can be illustrated by a plant having when finally completed a central administration building running north and south with, say, six long manufacturing wings running east and west, three on each side. In any event the arrangement and grouping of the buildings should be contrived as far as possible so that at all stages of development of the plant the administration shall be as central as possible. The grouping of buildings should, moreover, be such that at every particular stage of development the plant is, if possible, complete in itself. It is obvious that unless the buildings are grouped logically with reference to each other and to the administrative departments, considerable lost motion is bound to occur. This means waste, for if work has to pass and repass itself in process, more truckmen and more floor space are required to handle it expeditiously than is the case when the route from raw materials to inspection and shipment follows a straight line without re-entrant angles.

*Theory of Light.* Clear, direct light comes from the sky. The sky can be considered as a great reflecting mirror throwing light on the work. Theoretically, ideal conditions might call for buildings so arranged, spaced so far from each other and with such high ceilings, that the sky as a reflector would throw direct light on work placed on tables in the center of the ground floor. If this were so, direct light would then be present in every part of the building and on every bit of work. For practical purposes, the light rule in arranging buildings can be considered as an angle of forty-five degrees. That is to say, buildings should be spaced a distance from each other equal to their height. If clear, direct light is required, it is obvious that it can be obtained only in buildings of several stories and relatively narrow in width. In a one-story building with saw-tooth roof construction, the only direct light is from the side windows. The saw-tooth roof gives only indirect or deflected light. Such buildings, however, while not giving such good light, do give a rather uniform diffusion of light. When manufacturing buildings run east and west, we have the most constant light conditions. The south side always has sunlight and the north side is always free from sunlight and especially suited for all work of inspection and shading. In light manufacturing it is usually quite easy to lay out departments so that such work will come on the north side and machine work in a large measure on the south side. The street or streets on which a site is located should be considered in planning as having light value. Where the street is very wide, the eventual buildings can come nearer the street line. Where the street is narrow, the building line must be set back from the street line.

*Underground Piping.* In the planning of no other particular is it more important to have the possible, final and completed plans fully in mind than in connection with planning for sewers and underground piping. Very thorough provisions should be made for all possibilities of expansion and it will not be unduly expensive to make adequate installation in the beginning, if the planning has been carefully and properly done.

## PART IV

1. NUMBER OF STORIES
2. GROUND FLOOR
3. LENGTH AND WIDTH
4. COLUMNS
5. CEILING HEIGHTS
6. FLOOR LOADS
7. FLOORS
8. WINDOWS
9. STAIRWAYS
10. STORAGE AND LOCKER WING
11. TOILET ROOMS
12. POWER AND HEATING PLANT
13. SIMPLE EXTERIOR

*Number of Stories.* It is obvious that in considering any plans as to buildings, an early decision must be made as to whether the buildings shall be of one story or several stories and if more than one story, how many. Comparing equally good character of construction, a one-story building is more costly than one of several stories; is more wasteful of ground area; has less direct light, and has some disadvantages in administration. In general it is easier to walk up a flight of stairs than to walk several hundred feet through departments. The problem of ventilation is also difficult in a one-story building and operators on the whole rather object to the closed-in effect of a single-story building. There are, however, types of industry that call for one-story buildings, but for light manufacturing in general, the building of several stories is preferred. As to the number of stories the three main factors are: utilization of the land area, the cost of various types of construction and the use of stairways and elevators. In general the higher the buildings the more economical the use of the land, but if the ideal light rule is followed, this is not so important as it at first might appear. The higher the buildings, the further apart they should be spaced. Thus, if it is desired to meet ideal light conditions, the additional story-height of buildings does not appreciably reduce the amount of land needed. The type of construction and its cost has large bearing on the number of stories. The higher the buildings, obviously the lower the cost for the roof in proportion to the total floor area, but the larger the cost for foundations and columns. A study of the relation between cost of foundations and columns and cost of the roof in the various types of construction is thus involved. Figures prepared some time since, all factors considered, indicated that for mill construction buildings, the minimum of cost was obtained in a three to four-story building; in reinforced concrete, the cost did not show any material decrease when over four or five stories; and in structual steel reasonable economy was found at about six stories. It has been found that in four-story buildings employes can be required to use the stairways and walk. This means at the most the use of three flights of stairs. When we get to a five-story building, a passenger elevator for employes is found to be absolutely necessary and then that the elevator service will have to be made available for use by all who work on the third, fourth and fifth floors. These various reasons have led to the very general adoption of the four-story building as standard. It is obviously desirable that all stories be of the same height—in other words, uniform.

*Ground Floor.* The advantages of erecting buildings entirely above the grade have in the past been often overlooked, although the general practice is now so to build factory buildings. There is very little difference in cost between buildings in which the basement floor is several feet below the grade and those built above the level. The generally approved plan is to have the first floors of the buildings about one foot above the grade and this saves lowering and raising materials and product, and makes the first floor quite as good for manufacturing purposes as any other—a very desirable feature. As to buildings erected in congested areas where the entire land is occupied, an exception may be made to this rule. On properties where there is a marked grade or on properties facing on streets with different grades, the first floor may be laid out so as to be only in part above grade. There should be under the first floor, however, adequate subways and tunnels for heat, water and live steam pipes, for electric wiring and for the heating and ventilation systems.

*Length and Width.* In connection with the floor plan of a building—namely, its length and width—several things are to be noted. As to the length, the main factors on which decision should be based are cost and supervision. The minimum cost obviously decreases with the length, rapidly at first—less so the longer the distance—and the saving is not relatively great after, say, three hundred feet of length. One end wall is involved, and if this encloses twice as much area as otherwise, the cost of the wall in relation to the whole is only one-half. It has been found that supervision of a floor is limited in most cases to three hundred feet or less. Buildings three hundred feet in length have been quite common, but if the entire plant is very large, there is no good reason why buildings should not be six hundred or even eight hundred feet long. The width of floors is determined chiefly by cost, the light factor and the character of the work. In general the wider the floors the less the cost, but the poorer the light. The light factor depends very largely on the ceiling heights. With very high ceiling height the building can have greater width. Where a great deal of inspection work or delicate assembly work is involved and light becomes of prime importance, the width may run down to thirty or forty feet, as has been the practice in watch factories. In textile mills where the machinery is a factor the width may run up to eighty and one hundred feet. In general the tendency is towards wider buildings. The forty and fifty-foot buildings of the past have given way to buildings about sixty feet wide. If the ceilings are unusually high, however, or if the character of the business involves much storage in transit, the width may run up to seventy or eighty feet. The column spacing will then become a factor. It is obviously ideal to plan so that all buildings shall be as far as possible uniform as to length and width.

*Columns.* It is obvious that the less the space occupied by interior columns the more desirable and convenient the floor space for manufacturing. In mill construction buildings it is necessary to have more columns than in reinforced concrete or structural steel buildings. In the two latter types of buildings a twenty-foot spacing is economical and good practice. A building three bays wide (two rows of columns) has, usually, a more convenient interior than one with two bays or four bays with a row of columns down the center. In the first case the two outer bays are used in general largely for machinery and operations, while the center bay is used more largely for aisles and storage. In a building eighty feet wide with twenty-foot column spacing, the two outer bays are no larger than in a building sixty feet wide, and then we have two interior bays instead of one. It is quite possible, however, in reinforced concrete and structural steel buildings, to have spacing of columns greater than twenty feet.

*Ceiling Heights.* In a building sixty feet wide, it is possible to get a fairly satisfactory diffusion of light with a ceiling of from thirteen to fourteen feet. In reinforced concrete buildings of flat slab construction and with no beams or girders, and where the windows are brought right up to the ceiling, twelve-foot ceiling heights are to be considered. A slight increase in the height of the ceilings does not add greatly to the cost per square foot and the added height has many advantages. Where there are many employes per given floor area, as in some textile industries, high, airy ceilings are worth more than their extra cost. By making ceilings fifteen to sixteen feet high, better light is secured for all time. This is desirable for the immediate as well as for any possible future use and it creates for the workers a sense of space and cleanliness that is most desirable. This extra height, moreover, has a very great justification in the fact that it makes possible the installation at any time of a mezzanine floor on any story, at any point or over any part of a floor. With this ceiling height, there will be ample head room both above and below. The advantages of a sufficient ceiling height for the installation of mezzanines cannot be well overstated. The mezzanine permits at any time immediate expansion with practically no re-arrangement. Where used to relieve congestion, it is storage that is usually moved to the mezzanines. The mezzanine can, however, be used advantageously for storage at any time. No matter with what care the processes through a plant may be laid out in sequence and with due economy of space, there will come times when changes in process or in demand will greatly overload some step in the process. The alternatives are to re-arrange entirely nearly all the processes, to take one process in whole or in part entirely out of the chain or sequence, or to get quick relief through the use of the mezzanine. As buildings grow older their value will be enhanced by the ability practically to double the floor space without great cost.

*Floor Loads.* In the planning, due study should be given to the floor loads required. In the design and construction of a building it is obviously desirable, except for cost factors, to provide for heavy floor load capacity. Such capacity makes for durability, greater flexibility in the future use of the buildings and for freedom from vibration in connection with high speed machinery. If only very light floor loads are involved and no high speed machinery, then greater consideration may be given to mill or timber construction buildings as will be referred to later in this article. However, if the buildings are to be of reinforced concrete, it is possible to secure capacity for heavy floor loads without greatly increasing the cost. Calculations thus as to floor loads may be a very large factor in determining the type of construction to be adopted. In planning the floor loads to be adopted, it is wise to get adequate estimates as to the extra costs for extra heavy floor capacities. These estimates may reveal an extra cost so slight as to be well justified. The floor loads provided for should be adequate to support eventually a mezzanine as suggested.

*Floors.* Wood floors are most widely used. It has been proven, however, that concrete when properly laid and properly treated is very satisfactory and its popularity is increasing. To lay wood floors over concrete in reinforced concrete buildings is very expensive, unnecessary and not generally recommended. Concrete floors on the whole provide the best foundation for machinery. Great care should be used in drawing specifications covering how the concrete floors are to be laid. When floors are subject to the action of acids and chemicals, special study of conditions and requirements becomes necessary. Composition floors of various kinds have been used to a certain extent in Europe and their use in this country is increasing somewhat.

*Windows.* In general, it is desirable to have large window areas and perhaps the maximum window area. It is also a wise provision to have, as far as possible, uniform size panes of glass; this makes not only for regularity in design but for economy when replacement is necessary. The use of steel sash with rolled sections has almost superseded all other types and if glazed with wire glass in exposed locations—if any such—offers excellent fire protection. The small pivoted ventilator sections do not provide ventilation so readily as the sliding wooden sash and are more difficult to shade and clean. The advantages, however, usually offset the disadvantages. The various types of sheet metal sash are generally too expensive for general use. The use of ribbed or sanded glass is not recommended. It is objectionable where very accurate light conditions are required, by reason of a certain glare produced. Workers strongly object to it and want to be able to see out of doors, and there is a belief that there is a rest value in permitting them to do so.

*Stairways.* Where possible, stairways should be outside of manufacturing floors, leaving the manufacturing space a perfect rectangle. This can be accomplished by placing stairways in a projecting wing or in a wing connecting two manufacturing buildings. These wings are also frequently used for locker rooms, toilets and storage rooms as is mentioned hereafter. In locations where the climate is not too severe the so-called Philadelphia stair tower, where the approach to the stairway is through a loggia or alcove open to the weather, is excellent as an extra protection to employes in case of fire. With adequate ceiling height as recommended, a double stairway, sometimes called the "scissor" type, can be used, doubling the capacity without increase of floor space. A stairway should be wide enough for a double line of travel and not wide enough for three or more abreast unless there is an intermediate handrail. Experience has shown forty-four inches to be almost ideal for a double line. Some type of safety tread should always be used unless the tread is constructed of a non-slippery material.

*Storage and Locker Wing.* A most excellent feature in connection with a modern factory building or a group of factory buildings is to combine all stairways, elevators, toilets, storage rooms and locker rooms in a separate building or wing or in a connecting building; this to be provided with mezzanine or half-floors—two floors, in other words, for every manufacturing floor—and to have the space for toilet, storage and locker purposes planned originally in common and so that there may be free and large expansion for any one of them. The advantage of this can be illustrated by the following. In cases where workers may finally be employed chiefly on the second floor, storage could be removed entirely from the first or ground floor of the wing, from the mezzanine between the first and second, and from the second floor of the wing, and the space on these floors used exclusively for lockers and toilets, permitting on the second floor two or three times the toilet facilities on other floors. Using the separate wing for these purposes is the ideal plan. A separate wing or connecting building, from a fire prevention standpoint, isolates each floor and at the same time gives clear unbroken manufacturing space on each and every floor.

*Toilet Rooms.* It is impossible to plan in advance the maximum requirements for toilet rooms, due to the impossibility of fully determining the number of employes that will be required at any one point of the buildings several years after their construction, unless an absurd and unreasonable amount of equipment is provided in advance at various points. The best plan is to install liberally what is needed at the moment, but have space available and so located that the toilet rooms can be doubled and tripled in size when need arises. This involves proper preliminary planning for expansion as to water piping and sewers. There are many advantages in having separate toilets for different departments or classes of labor. Thus it may be wise to plan so that two and even three separate toilet rooms may be placed near one another, instead of merely enlarging the existing one. A general plan for a large wing or connecting building with mezzanine floors and with large space in common available for storage, lockers or toilets makes all this possible.

*Power and Heating Plant.* The determination here will rest upon the decision as to whether power is to be made or purchased. If there is little use in processes for the exhaust steam from a power plant, it may be found advantageous to buy the power required and install merely a low pressure heating plant for use in winter. These factors are also to be considered. If the power load is a very steady load through the day and with no peaks power can be purchased cheaper than otherwise. Again, if there is night use for power this will further reduce the cost of power purchased. In many instances power can be made cheaper than it can be purchased, but this point should be clear: the cost of power made is low only when installation is being used reasonably well up to capacity. This is due to the fact that cost of power made includes, as very heavy factors, interest on investment and adequate depreciation charges. Thus, if at any time, for example, only fifty per cent of power capacity is being used, it is not unlikely that the cost exceeds that at which it could be purchased. Assume that the original installation provides for capacity twenty per cent over immediate requirements. If the business falls off, the power cost will go up; on the other hand, if the business grows rapidly, an addition to the plant will be required and it may be of such size as to make the amount then used out of total capacity rather low and the cost high. Two points should be emphasized: the wisdom of providing intelligently and adequately for expansion in connection with any power or heating plant and the wisdom of having power plant specialists study and consider this problem with great care.

*Simple Exterior.* The exterior of a factory building should truthfully express in a simple direct form that it is a factory building. Architectural ornament, in the sense of unnecessary expenditure in that direction, is not appropriate or desirable. Neat, simple lines, not involving an extravagant outlay, are far more dignified and pleasing than ornate decoration. Nevertheless, it is to be noted that by a careful study of design and costs, some very simple and yet attractive architectural features can be added at a very low additional cost.

## PART V

1. TYPES OF CONSTRUCTION
2. COMMENTS ON TYPES OF CONSTRUCTION
3. METHODS OF CONTRACTING

*Types of Construction.* The various types of construction used for industrial plants may be classed as follows:

(a) Frame Construction
    An all wood construction.
(b) Ordinary Construction
    Masonry walls, wooden or iron posts, thin wood joists and thin wood floors.
(c) Mill Construction
    Masonry walls with heavy wood columns and heavy wood girders spaced close enough for a thick wood floor to make the span without intermediate beams.

(d) Semi-Mill Construction
  A modification of mill construction with a wider spacing of columns and girders and the use of heavy beams spanning from girder to girder.
(e) Slow-burning Construction
  A modification of one of the above classes with an additional protection of metal lath and plaster.
(f) Reinforced Concrete Flat-slab Construction
  All reinforced concrete with thick slabs, no intermediate beams or girders, columns spaced up to twenty-five foot centers. A particular flat-slab construction has been termed "mushroom" construction.
(g) Reinforced Concrete Beam and Girder Construction
  All reinforced concrete with beams and girders.
(h) Structural Steel Construction, non-fireproofed
  As usual in one-story buildings.
(i) Structural Steel Fireproofed Construction.

*Comments on Types of Construction.* Frame construction is very little used today. Ordinary construction is considered only where very light floor loads are required, where fire protection is not a factor and where there is little machinery or very little high speed machinery. Good manufacturing buildings are usually of

1. Mill Construction
2. Reinforced Concrete Construction
3. Structural Steel Construction.

The selection of the type of building or materials of construction requires careful consideration. The mill construction type was originally introduced in New England textile factories and favored by fire insurance companies. It has a fine fire record and carries a very low insurance rate. In sections of the country where heavy timber is not too expensive and where heavy floor loads are not essential, it is still a very desirable construction. It is usually rapidly erected and building work can be carried on in winter weather. Reinforced concrete has in recent years largely superseded other methods, particularly for multi-story buildings, and for heavy floor loads compares very favorably in cost with mill construction. There are advantages for both types of construction and the question is involved as to whether or not a wood top floor is necessary. These questions have to be settled for the particular industry. While concrete work can be carried on in winter it is done at a disadvantage and at extra expense.

The difference in cost as between buildings of good mill construction and reinforced concrete is not great. The main factors are the floor loads required, the need as to wood top floors and in some instances local labor conditions. The mill construction may be slightly more economical than reinforced concrete, but only when designed for light floor loads. For one-story buildings with saw-tooth, monitor or gable roofs, or for one-story buildings such as power houses, non-fireproofed, structural steel has much to commend it, but for a multi-story building where fireproofing is necessary, the high expense usually precludes its use and in many particulars it is not considered as good for buildings as reinforced concrete.

*Methods of Contracting.* There are three general methods under which contracts for construction are usually let.

(a) Competitive contract
(b) Non-competitive contract
(c) Cost plus a percentage or fixed profit.

When drawings and specifications have been prepared by a competent engineer or architect and the work is to be under competent supervision, competitive proposals can be secured from a selected list of contractors and a contract can nearly always be made with an experienced reliable contractor at a fixed amount. There is very little question but that this is the most economical method and, unless time is the all important factor, the more generally satisfactory. In this connection, a word might be said as to general or separate contracts. Local custom has a bearing and must be considered. In many cases contractors are organized to take several lines of work and in other cases a general contractor will be, for instance, a mason and will sub-let all other work. The general contract centralizes responsibility, but does not usually give the lowest combination of proposals and in many cases brings in undesirable sub-contractors. There is apparently a tendency to let separate contracts for various divisions of work such as mason, carpenter, steel, heating and plumbing. In many cases satisfactory non-competitive contracts have been made, particularly for some type of standard building to be erected within a certain time limit. This method frequently precludes proper study and the cost benefit of competition. It is desirable only where time is all important. Within recent years many large organizations of contracting engineers have been built up that furnish an engineering service, or work from plans of other engineers when necessary, and take contracts to erect on a cost basis plus some form of agreed profit, usually a percentage on cost or a fixed sum. This is apparently a very fair method and wonderful results as to speed have been made. Unfortunately it seems to have a somewhat demoralizing effect on both workmen and contractors and in many cases costs have been unduly large.

## Part VI

1. Sprinkler System
2. Interior Fire Protection
3. Exterior Fire Protection
4. Fire Escapes
5. Partitions
6. Shelves, Tables, Benches, etc.
7. Shafting and Supports
8. Manufacturing Equipment
9. Offices and Office Equipment
10. Power Distribution
11. Heating and Ventilation
12. Lighting
13. Elevators and Conveying Machinery
14. Storage Space
15. Locker Rooms
16. Lockers
17. Lunch Room
18. Safety Appliances
19. Sanitary Conveniences
20. Health Contributing Arrangements
21. Factory Grounds

*Sprinkler System.* No modern building will be designed or built without a proper and adequate sprinkler system. The saving on fire insurance is too large to be ignored, but the protection to the plant is of even greater moment. The home offices of the insurance companies should be asked to pass on the plans for such a system in advance of any final decision.

*Interior Fire Protection.* In addition to the automatic sprinklers above mentioned, fire protection would see to it that water buckets and chemical fire extinguishers are available at regular places throughout the plant to check incipient blazes. Woodwork about a plant should also be eliminated as far as possible and metal used instead. There is no better protection against fires than cleanliness and any appliances and conveniences to this end such as vacuum cleaners should be carefully considered. Metal receptacles for waste and refuse will of course be provided.

*Exterior Fire Protection.* The insurance companies will suggest and determine requirements as to exterior hose houses, yard hydrants, water tanks, underground reservoirs and fire pumps.

*Fire Escapes.* Exterior fire escapes are unnecessary in a building properly planned. The number of stairways and their location in buildings is now usually determined by law. Stairways located in towers or wings as suggested make fire escapes unnecessary.

*Partitions.* It is recommended that interior partitions be of a standard metal type and built in standard sections. Buildings with all stories of uniform height and width and with columns uniformly spaced make this very feasible. Metal partitions are very desirable from the fire protection standpoint and are movable without loss as changing conditions arise.

*Shelves, Tables, Work benches.* It is most desirable that standards for all this kind of equipment be adopted and adhered to. so far as possible metal should be used and it will be found at this can be done without any material increase in expense.

*Shafting and Supports.* If buildings are to be built of reinforced concrete, sockets for bolts should be imbedded during construction in all the ceilings throughout the plant at points rather close and uniformly spaced. To do this at the time of construction will result in a very great subsequent saving. Partitions, shafting and the eventual mezzanine floors can be attached to these sockets quickly and inexpensively and without cutting or drilling into the concrete floors. Shafting supports should be uniform and standard.

*Manufacturing Equipment.* It is somewhat beyond the scope of this article to discuss in detail the subject of manufacturing equipment. It may, however, be safely stated that a good new manufacturing plant logically calls for modern labor-saving machinery, properly arranged and economically driven.

*Offices and Office Equipment.* The open office is preferred and is coming into more and more general use. Flat-top sanitary desks are recommended. A central filing vault with metal filing cases is not uncommon. The employment offices should be adequate, and properly planned and laid out.

*Power Distribution.* Electric distribution of power is almost universal in some form or other. This is true with the possible exception of a few special instances such as a rope drive in some textile plants. Careful study is, of course, necessary in each particular case as to whether a motor will drive only one machine or whether it will drive a shaft to which a group of machines may be belted. In all cases conduits and electric feed mains should be of sufficient capacity to allow for very large expansion and changes.

*Heating and Ventilating.* In addition to lighting, nothing contributes more to the comfort and efficiency of employes than satisfactory heating and ventilation. Three general methods of heating are direct radiation, indirect radiation and a combination of the two. By indirect radiation is meant some form of fan or blower system. Where direct radiation only is used and the number of employes large, ventilation is not satisfactory. Where an indirect system only is used, difficulty is sometimes found in heating remote points. A combination of both direct and indirect radiation is more costly, but more nearly approaches the ideal. The radiators are usually heated with steam, but sometimes a pumped circulation of hot water has been effective and a method of combining an automatic sprinkler system with hot water radiation has been recently introduced. In connection with an indirect system, apparatus for air filtering and conditioning is frequently used. The effectiveness of a heating system is greatly increased by double or storm sash at exposed points.

*Lighting.* The method of artificial lighting will require careful consideration. Illuminating engineers have now well established rules for the intensity desirable for nearly all kinds of work. General illumination is now almost universally the preferred method of lighting. This may be of several types—either direct, indirect or semi-indirect—and is sometimes supplemented by additional small lights where great intensity is necessary at one point. An illustration of this is a small light shining directly on the needle of a sewing machine in a clothing factory. Provision should be made for changes in occupancy and for expansion, and conduits and electric feed mains should be planned and laid out with this in mind.

*Elevators and Conveyors.* Elevators are placed preferably in a separate wing so as not to encroach on manufacturing space. They usually can be conveniently located in the storage and locker wing previously mentioned. Building laws are quite explicit as to construction of elevator shafts, doors and safety devices. In a building of not over four stories, as recommended, passenger elevators are not necessary. Conveyors are such a special requirement that little can be said. In many cases material can be conveyed in crates or boxes on trucks and elevators with greater economy. Gravity conveyors have in many cases proved very satisfactory. In general the efficiency of conveyors is apt to be overstated.

*Storage Space.* The storage spaces within the main or manufacturing buildings should be only for goods in work or in transit. Such spaces are absolutely necessary in most departments in order to insure an even flow of work, but space for goods in transit should be limited by definite determinations forcing all extra or surplus stocks into the storage spaces in the storage and locker wings. All storage of old and extra machinery, boxes, surplus equipment and materials should be in the main storage spaces provided in the storage and locker wings.

*Locker Rooms.* In general, the objections to a single large locker room on the ground floor are valid. It is better to group departments and classes of labor in separate locker rooms and this is preferred by labor. A single room on the ground floor may be a waste of space in the beginning and in the end not readily capable of being expanded. It also means crowding on stairs and at exits at closing times. Separate locker rooms on the various floors of a separate wing having mezzanine floors distributes the rush on stairs and at exits upon leaving the buildings.

*Lockers.*—There is no known perfect solution of the locker problem. If the expense can be borne and is no great object it is best to install individual lockers, but stealing will go on even with lockers and after a period of time experience has shown that perhaps not over thirty per cent of the lockers will be locked. However, if the locker has been provided and loss occurs through failure to keep the locker locked, responsibility cannot well be placed on the company. The use of small locker rooms for different departments tends to place responsibility for stealing on a limited group and thus checks it. Many concerns have separate coat rooms for different departments and provide ordinary racks for hats and clothing instead of lockers. It may be advisable to establish and maintain a check room near the main entrance where employes can check small articles of value at company responsibility.

*Lunch Room.* This feature is a necessity in the modern plant. It should be on the ground floor and near the general exits. In general it has been found that employes will not go upstairs to a lunch room. It should be directly accessible after working hours without passing through other portions of the plant. It should be considered, moreover, as more than a lunch room. It is the assembly hall for the plant. It is a place for dances, concerts, dramatic entertainments and such other uses as may properly suggest themselves to the employes. It would not be inappropriate or undesirable to have a platform or stage at one end of the room. The lunch service usually follows the best accepted practice in cafeterias. The equipment in kitchen and behind the serving counter should be adequate and installed under the direction of specialists on factory lunch rooms. The rest of the equipment such as chairs and tables should be simple but very substantial. Small tables are preferable to long narrow tables which suggest an institution. A small octagon or circular table accommodates four people under usual conditions but can conveniently be used by five or six. The one lunch room should be used by all. Separate lunch rooms for the office workers, officers and heads are not favored.

*Safety Appliances.* The question of safety appliances will in a large measure be determined by the nature of the particular industry. The Safety First movement in America has developed excellent information and data on this subject which is available and will be duly considered in connection with all new installations. Adequate exits with wide halls leading to them will of course be provided; stairs will have proper guard rails and safety treads as previously suggested and elevators will have automatically closing doors. Fire exits will be properly marked.

*Sanitary Conveniences.* Most modern factories with a proper heating and ventilating system, with good lighting, with good toilet facilities and cleanly kept from the sanitary standpoint, compare favorably with even the best of homes. In addition to the particular things mentioned, however, there should be provided adequate washing facilities with hot and cold water. There should also be drinking fountains or stations for distributing water to employes—in either case connected with a water cooling-system. The power plant should be provided with a smoke consumer, and throughout the plant, wherever there is dust or dirt arising from operations, there should be installed the most efficient dust-collecting systems. Too much emphasis cannot be placed on this last point. Shower baths should certainly be provided in plants involving very dirty work and at least to a limited extent should be provided in all plants. Efforts should also be made so to arrange and control machinery as to reduce noise to a minimum. Noise eliminators may be used at certain points.

*Health Contributing Arrangements.* A health bureau is today a well accepted fact in the best of manufacturing establishments. This involves, first, a proper hospital room and dispensary with adequate and suitable equipment therefor. Separate dressing rooms for men and women should also be provided in connection with an examining room which may in a small plant be joined with the hospital room. Equipment for optical work should be installed and many plants now have a special and fully equipped room for dentistry. A rest room for women with comfortable cots and toilet is almost a necessity. Recreation rooms for men and also for women are desirable, but not so necessary as the other features mentioned. Such rooms would be used for reading, study, music, sewing and games. They might be combined with the lunch room.

*Factory Grounds.* This article strongly recommends the original purchase of a site materially larger than required at the moment. This provides for expansion, but is at all times of real value. The advantages of providing for outdoor recreation of employes is too obvious to need emphasis. Baseball grounds, tennis courts, bowling greens, and spaces for volley ball and quoits will make good use of all land available. In congested areas more use should be made of roof gardens. A landscape architect should be consulted at the time the site is purchased and share in the decisions as to the exact location of the buildings and the proper allowance for foreground. He should also coöperate in laying out the grounds for appropriate landscape effects.

# Executive and Administrative Organization

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IN discussing the subject of executive and administrative organization, it seems desirable to treat it in such general terms as will permit of its universal consideration without reference to its professional or industrial application to a particular undertaking or activity.

Let us consider first and broadly the problem of management. This subject may be considered under three heads:

Organization
System
Administration

Organization is the division of the work to be done into defined tasks and the assignment of those tasks to individuals qualified by training and natural characteristics for their efficient accomplishment.

System is the method pursued by the organization in carrying out its tasks and is the mechanism or process of management by which the efforts of the organization are standardized and unified.

Administration is the routine work of the organization in operating the management mechanism or system.

We must of necessity have an effective organization, system and administration and an effective coördination of the three to produce effective management or management control.

Organization deals with the qualifications and characteristics of human beings and is consequently deeply psychological. System deals with the methods of performance and should be scientific. Administration deals with the performance itself and should be the application of a psychologically correct organization to the execution of scientific methods of performance.

It is essential that the organization fit the system and the system fit the organization. You can kill the finest organization in the world by forcing upon it a system that it is not qualified to operate, and similarly, you can kill the finest system in the world with an organization of incompetent, inefficient men, or men improperly selected or improperly assigned. You cannot make a success of any system with incompetent men. You can make a partial success of any system with competent men.

A competent organization will make up for many weaknesses in system and we can afford, therefore, not to be arbitrary in the matter of system, but let both the organization and the system be adapted to each other. The refinement and development of the one should keep pace with the refinement and development of the other.

Our concern for the moment is with the subject of organization rather than with the subject of system, and we are concerned with administration in its relation to organization and to the extent that it grows out of organization. Let us proceed then to the development of the principles of organization, approaching it with a psychological viewpoint and considering first the classification of individuals for organization purposes.

Men are of two broad general types, namely: the engineering type and the executive type.

The engineering type of man works for the solution of a single technical or engineering problem and is concerned with the determination of the solution rather than the application of that solution to practical activities. The true type has the capacity to concentrate continuously on a single problem until the solution has been reached. He is interested in the determination of cause and effect and of the laws that govern phenomena. He is disposed to be logical, analytical, studious, synthetical and to have an investigating turn of mind. The predominating characteristic that distinguishes him from the executive is his ability to concentrate on one problem to the exclusion of others for a protracted period, to become absorbed in that problem and to free his mind of the cares of other problems. He does not submit readily to the routine performance of a given quantity of work. He deals with laws and abstract facts. He works from text books and original sources of information. Such men are Edison, Steinmetz, the Wright brothers, Curtiss, Bell, Pupine, Fessenden, Browning. These men are the extreme of the engineering type, they have enormous imagination, initiative, constructive powers. Mr. Taylor was in reality an engineer rather than an executive. He applied his wonderful inventive genius to the invention of management methods.

The executive type takes the conclusions of the engineer and the laws developed by the engineer and applies them to the multitude of practical problems that come before him. His chief characteristic is that he works with a multitude of constantly changing problems at one time. He concentrates on one problem after another in rapid succession. In many instances he has not the time to obtain all of the facts and he must arrive at a conclusion or make a decision based upon partial knowledge. He must rapidly assimilate available facts and fill in what is lacking from the ripeness of his own experience, frequently calling upon his powers of judgment, and even of intuition. He is a man of action, boldness, ingenuity, force, determination, aggressiveness, courage, decision; he is possessed with the desire to get things done, impatient of delay. He works from a handbook, a newspaper, or nothing at all. Such men are Schwab, Goethals, Pershing, Farrell, Hindenburg, Hoover.

We frequently find that the leaders of either of these classifications possess something of the qualities of both and therefore we have executive engineers and engineering executives. The combination of a high order of ability in these two classes in a single individual is rare and valuable.

Modern industry grew out of the inspiration and inventive genius of the engineer and has in turn created a demand for the engineering type that has led to the establishment of courses of training for engineers in our schools and colleges. The demand for executives grows out of the growth and increasing complexity of modern organizations. In small and simple organizations the demand for the executive as a type is not so apparent, but when the organization grows in size or complexity to the point where its operation is not within the vision or capacity of a single individual it becomes necessary to operate such an organization by the processes characteristic of the true executive, wherein accomplishment is brought about not so much through personal effort as through the direction of others coöperating in large numbers.

Modern industry and social organizations have not as yet provided adequate means for the systematic training of executives, and the executive usually grows out of the engineer by virtue of his natural characteristics and talents, developed and stimulated by his experience. As a result there are many potential executives eating their hearts out and wasting their time in uncongenial application to pure engineering effort. I believe that the tendency in modern organizations of a thoughtful character is to recognize an executive as a type and endeavor to offer him facilities for his natural development.

Perhaps the best basis for this development is a broad technical or engineering training that has given the individual knowledge of fundamental scientific laws and truths that fits him for the rapid analytical consideration of the many problems that come before the executive and enables him to reach his decisions in accordance with the demands of fundamental laws. The qualifications for success require that he have a natural ability to make a happy application of principles to the immediate pressing and transitory problem.

We find these two types in all professions and human activities and at all stages and levels thereof, by which I mean that they are not confined to industrial organizations alone. For example, we have lawyers of the legal engineering type whose success rests upon their technical knowledge of the law and who approach a legal problem very much as an engineer approaches an engineering problem. In the same way we have lawyers who are of the executive type, whose success rests upon their ability to handle a case in court with the material furnished them by the legal engineer. In recognition of this principle we find successful modern law firms to be made up of the two types, both of which are generally recognized in the membership of the firm.

In the medical profession we find the same condition to exist. We find medical engineers engaged in scientific study, research and diagnosis, and medical executives engaged in the application of medical and surgical laws to a vast number of current cases, or medical executives engaged in the management of sanitariums and hospitals.

Similarly in shop life in industry we find workmen of the engineering or technical type who are qualified to study and invent or develop the processes by which a mechanical problem may be solved, and workmen of the executive type who take the mechanism developed by their technical or engineering associates and apply it to the routine work of production.

When we come to consider the performance of work in an abstract sense, we recognize two broad steps, namely: planning and execution; and these two steps correspond to the two broad types of men, the engineering type and the executive type.

Planning is a function of an engineering order, and execution is a function of an executive order.

In military organization this distinction is recognized in the staff and the line. The ambitious plans of the German general staff are responsible for the late terrible struggle. These were revealed to us through the cold-blooded, relentless, cruel execution of these frightful policies by the German line.

Staff work and engineering work grow in importance with the complexity of the problem. As the problem becomes more and more complex it becomes more and more difficult for those concerned with the development of the plan to devote their time and energies to its execution; and, in turn, for those concerned with its execution to devote their time and energies to the formulation or development of the plan.

A study of any phase of the operations of the late war will show the increased importance in modern warfare of the staff or planning department, and the disposition to separate execution or production from planning. This was evidenced in the wide separation of the general from his command, and in the direction of large units by mechanical means of communication rather than through personal direction heretofore possible in smaller and less intricate fields of military operation. The modern army is nothing more than a very large industrial organization and its size and complexity has led to the same analysis and division of work among engineers and executives as has taken place in modern industry, and allowance need only be made for the difference in nomenclature in military and industrial practice to follow through the analogy.

This difference in engineering and executive types is further reflected, though in a somewhat different way, in the distinction between specialists and functionalists.

A specialist is one who deals with a particular product or a particular class of work; so we have gun specialists, cartridge specialists, forging specialists, drilling specialists.

A functionalist is one who deals with a particular function or activity or step in the performance of work regardless of the specialty to which it refers. He plans the work or executes the work and is theoretically not concerned with whether that work produces guns or cartridges, forgings or castings. He is prepared to carry on his activity in connection with any specialty. The functionalist is concerned more with the type of his work than with the material result or product of his work. He performs one part of the task whereas the specialist performs the entire task.

The specialist is the natural outgrowth of the early development of industry. In the family organization each member of the family was assigned some specialty and these specialists finally organized the trades and the trade unions and, where we find these specialists working in the elementary state that obtained in the early days of the industry, we find them performing all of the functions in connection with their specialty. Carpenters and shoemakers, as a one-man organization, work very much today as they did a hundred years ago, but where the shoemakers have congregated to form a modern shoe factory, it becomes necessary not only to specialize the product, but to specialize the processes and one man no longer makes a pair of shoes completely, but he performs repeatedly merely a single process in connection with the manufacture of shoes.

And in turn, the problem of management has become so complex in connection with these groups of specialists that it has become necessary further to simplify the work by dividing it into functions or steps in order to bring it within the range of average individuals who can be found in sufficient number and to adapt it to the special talents of individuals whose powers are more developed in one direction than another. Functionalizing is, therefore, the natural outgrowth of the complexity of modern industry. It is in effect specializing the process of management.

Since the function is merely a step in the work to be done, merely a part of the whole work, it is a part of all work and is, therefore, universal in its application without reference to the specialized product or process.

We have noted that functionalizing is necessary in order to bring the work of management within the grasp of the individuals available and within the range of their talents. Hence, functionalizing should be along psychological lines, that is, the work should be divided in such a manner as to employ the talents of the different psychological types.

Men having the character and qualifications to undertake the entire activity of management of any particular specialty are not available in sufficient number to fill all of the positions necessary. As the combination of specialists becomes more complicated, the problem of management becomes correspondingly complicated and we are accordingly in need of functionalization even among men capable of handling a multitude of specialties.

We have developed the fact that the functions should be universal and applied to all specialties and, at the same time, follow psychological lines and require for their performance distinct psychological types. Furthermore, the functions should be elementary in that the analysis be carried far enough to determine the elements of the work and to call for an elementary psychological type.

A wide difference of opinion and practice exists as to the determination and definition of the various functions. It does not seem necessary at this point to set up any arbitrarily determined set of functions, but merely to say that the functional activity in connection with any class of work should be carefully analyzed and such functions determined as will completely perform that work, if they in turn are completely performed. Conversely, of course, the work will fail to be performed if any function is not performed. This is in effect dividing the work into steps.

The broad functions of planning and production are generally recognized. Planning is the determination of what is to be done. For this purpose a planner should be analytical, have reasoning power, imagination, be able to dissect, to break the task down into its elements. He should be synthetical, that is he should have the power to draw these elements together, to build up and to construct the whole out of its elements. Production is the application of force through the plan. A productionist should be forceful, aggressive, driving, tenacious, persistent, able to control men, to direct them, to guide and to lead them.

Psychologically, these correspond to the engineer and the executive, and the fault most commonly found in modern organizations of a low order of efficiency is that they neglect the planning or engineering function; and the fault most commonly found in modern organizations of the so-called systemized kind is that the planning function has been too much elaborated and the production function too much subordinated.

There is a very great danger in endeavoring to establish arbitrary determinations in this matter as laws for universal guidance. Each situation requires careful study and thought to the end that there may be a proper balance of emphasis upon the different functions.

Different emphasis will require to be placed upon the various functions under different sets of conditions; in one instance the planning function will require to be emphasized and in another the production function. For example, in a jobbing shop where each job differs from others it is necessary to pay particular attention to the work of planning, to study it with the best talent available and to record the results of such study in the form of instruction to producers. In this manner the work of production will be standardized, controlled and simplified and the work of planning will produce its own reward.

On the other hand, in a manufacturing shop where work is of a highly repetitive character and a large volume of similar articles flow in a stream the work of planning becomes standardized, growing out of the original engineering plan, and men can be selected and assigned to it accordingly. In such a situation, emphasis will require to be laid upon the production function in order that the continuous flow and the volume of production may be maintained, and the one selected for such a task should have the psychological characteristics of the typical productionist.

Similarly in selecting or determining other functions than the two main functions of planning and production, it is necessary to give careful consideration to the existing conditions and to determine the extent to which further elaboration of functions is necessary or desirable. Too great elaboration of functional control has cast some discredit upon many modern organizing and systematizing efforts. The organization should compare in simplicity with the problem and where the problem is of such a complex nature as to require a greater elaboration of functions, the functions should be determined and defined along psychological lines; that is, they should require for their fulfillment distinct and simple psychological types and the number of positions or functions requiring a complex psychological type should be kept within the range of the human talent available. Talent of a low order may require a more complete functional analysis and talent of a high order may make possible a simplified functional control in which a number of elementary functions are combined under the supervision of a single individual capable psychologically of their composite comprehension.

If the problem is simply routine it should not be burdened with an office or shop organization and system that is complex. If the product is flowing continuously for a long period of time we can afford to devote the best talent available to development of the original plan of work by elaborate engineering, research, survey and investigation. Such a plan may call for elaborate and expensive equipment of a fixed nature devoted to narrow and particular purposes and the operation of such equipment may be of such a fixed nature as to require the most simple kind of organization and system, having no other function than to keep this equipment operating in a rigid routine way. The planning function in such an instance is embraced in the original plan of work and the production function is reduced to one of routine repetitive performance.

We find such a situation to exist today in a number of our automobile factories where they have worked continuously on one model of car for a period of years with little or no change in design, or no change in design radical enough to require a change in equipment, and where the production has been in sufficient volume to pay for most expensive and elaborate production equipment and methods. In such a situation the management becomes largely mechanical and lacks the interest that arises from a situation in which a new problem is presented every day and in which each new problem requires a different combination or sequence of utilization of facilities available and therefore a new and distinct plan of work and a constantly changing character of supervision in a productive sense. It would seem that the management problems under these latter circumstances are of a higher order and call for a higher order of engineer and executive in an operating sense.

Our conclusion is that we should build as strong as we require, but that we should not overdo it. We should not put in organization and system for the sake of it. We should make it utilitarian—adapt it to conditions. We should not have people about for the purpose of carrying titles or receiving salaries, or conforming to an arbitrary, rigid type of organization, or for the purpose of interpreting an unnecessarily elaborate system. The simplicity of the problem should be reflected in the simplicity of the organization and system, and complex organization and system should be resorted to only where the complexity of the problem demands. The ultimate cost of administrative effort is a measure of the adaptability of the organization and system to the problem. Modern business demands of managers and management mechanisms, or organizations and systems, higher efficiency and lower costs.

# Centralization versus Decentralization in Management

By Edwin G. Rust
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LET us understand by decentralization, diffusion throughout the personnel, as far as practicable, of the active principles or motivation of the organization. These active psychological principles are perception of purpose, responsibility, authority, initiative, interest in the outcome of the enterprise as a whole, together with an understanding of the social value of the enterprise. The application of these principles is materially affected by the mechanical arrangement of the organization, but decentralization must have a broader meaning than the mere arrangement of component parts.

Mechanically speaking, organization of management is the harmonious marshalling of the functions of management and the coördination of the activities of its different elements for the purposes of production. The mechanical influences tending towards centralization, or towards decentralization in management are largely affected by the questions of size and complexity of the undertaking. Decentralization of management in a very small shop is hardly possible, and is certainly not desirable, while over centralization in management of a very large manufacturing industry may be highly undesirable.

In the early days of industry organization was a simple matter, but as manufacturing developed from household industry and the small individually owned and managed shop, with its unspecialized labor, to the complex relationships of the elements of modern large scale production with its specialization of labor and subdivision of processes, organization of management has become a matter of most serious concern to the leaders and organizers of productive enterprises.

Centralization and decentralization are opposite and balancing conceptions and the center of gravity of an organization lies intermediate between the two extremes, now approaching one, and then the other. The nearer the center of the organization approaches the ideal mean, the less becomes the friction of its operation.

I should like to emphasize that the center of purpose of an organization must lie outside of, and beyond itself, that an organization is not an end in itself, but a means to an end. It should not evolve as a conscious effort to establish this or that type of organization viewed merely as an organization, but must be considered first and last in its relations to the particular conditions and circumstances of the enterprise. One should by all means avoid the mistake of endeavoring to adapt too much his productive effort to a theory of organization or of management.

Too many organizers of industry proceed on the basis of a theory of management which they may have known to have been applied elsewhere, being unconscious of the fact that what may be a good method under one set of conditions might, under different conditions, proves disastrous.

Nothing discourages capable and experienced men more than to be "hamstrung" by the organization fantasies of some enthusiast blindly following a theory of management which is ill adapted to the particular conditions, and perhaps, impossible for any conditions.

Purely decentralized or centralized managements do not exist, and we may consider practically all industrial organizations as a complex combination involving both the centralized idea, and the decentralized idea of management. In fact, it is doubtful if the balance between the two conceptions is consciously arrived at in any case, but is effected by the play of ideas applied to the solving of organization problems as they arise, and the adaptation of methods to conditions.

There are some general considerations which should apply to all cases:

(1) Central control, with the end that uniform policy and discipline shall be maintained, and the activities of the different departments shall be properly coördinated.

(2) Decentralized and delegated authority and responsibility to the end that initiative shall be encouraged, and that special, local and emergency conditions can be met on the best terms.

It has become the fashion with some to think that the initiative and brain work should be centralized at the top and that merely the manual or physical execution of the work should be left to the workmen. In this connection, one important fact should not be lost sight of, a fact of most vital importance in industry, namely, that the work should be interesting to the workmen.

There is nothing so destructive of happiness and contentment as the deadly daily monotony of uninteresting and uninspiring work. How to make the daily work interesting and inspiring to the workmen is the really great problem of the organization of industry. To organize a factory or department from the standpoint of greatest efficiency as a purely productive undertaking, is one thing; while at the same time, to meet the spiritual and mental needs of the workers it becomes a very different proposition, but, nevertheless, this is the vital part of the problem. Purely manual work requiring no play of intellect can under no circumstances appeal to the interest of the workman. He must feel an interest both in the method and the result; he must find exercise and play for his mind and his imagination. Many men of independent power work because they like to work, never realizing that the reason they appear more industrious and efficient than some others is that they have the privilege of choosing work that interests them, while, at the same time, it may not have occurred to them to give any thought to the question as to whether or not the work of the subordinates is made as interesting and inspiring as possible.

Organizations seldom spring, Minerva like, full grown from the head of the executive, but develop and change as the need arises or with the growth of the undertaking. A well balanced organization with a given personnel may require to be materially modified, even with a minor change in personnel. It should be the duty of the central control or head executive to maintain a vigilant eye upon the organization, and at the needed moment increase or decrease the centralizing factor. It may be, too, that the severity or character of the functions will materially change, and a delegated or functional task which was formerly not beyond the capacity of a subordinate, will require to be subdivided.

The most important thing about an organization whether centralized or decentralized is the spirit in which it is conceived and carried out.

There is no place in management for the autocrat, and there rightly never has been. A natural autocrat might set up theoretically a most excellent and highly decentralized organization, but under autocratic administration it would in effect, be highly centralized in its operation. It is vain to delegate responsibilities and authorities while at the same time nullify them by autocratic administration. The autocrat lives, breathes and exists only through fear of his subordinates, and nothing so paralyzes the faculties as fear. Such an executive is not likely to profit by the loyal support of his subordinates, or to receive helpful suggestions and advice from anyone; a result fatal to the development of an efficient and effective organization.

On the other hand, even the proverbial one-man plant will function admirably under the administration of certain types of men. One who takes his subordinates into his confidence, seeks suggestions and advice, and, by making all spiritual partners in the enterprise, builds up an *esprit de corps* and morale which cannot be surpassed for effectiveness, efficiency and contentment. In fact, while mechanically of a highly centralized type, this is psychologically a decentralized organization.

I do not wish to give the impression that one-man management is desirable. Its objections are too obvious and well known to warrant discussion here. It is desirable, however, that the distinctive virtues of the personal "one-man management," should be realized in every organization as far as possible. I refer, of course, to the sympathetic and mutual understanding and personal touch which should exist between the executives and the workmen, especially those workmen occupying the less skilled positions and whose work from the nature of the case is least interesting and inspiring. Even the "pick and shovel" men receive inspiration from proper manifestations of interest in their work, their reasonable comfort, fair treatment and general well-being.

The manager should not detach himself too much from the rank and file of the organization. He should "decentralize himself" and by kindly and courteous contact with the men, as far as possible, make himself the medium through which a message of good-will and interest and respect is constantly conveyed to them as well as impressions of the ideals and purposes of his and their joint efforts as fellow-workers in the productive enterprise. He occupies a position of peculiar advantage. His work naturally is full of purpose and inspiration and he should see to it that he shares with all in the organization, as far as possible, those things which lend zest and satisfaction to the day's work.

Decentralization means differentiation, not disintegration. The more attenuated an organization the more it must be knit together by some strong gravitating influence. The more an organization is decentralized the more important become the functions of central control, as knowledge of general conditions and the formulating of policies can only come from the top. The manager or executive delegates to departments discretion only as to their departmental activities and these departments must be constantly guided in those things which are a matter of general policy and which can only be determined from a broad knowledge of external conditions.

Every conception of management on a scale of any magnitude should embody a central control with, as far as possible, a decentralized functional organization, but the vital thing is how the control is exercised. It should be based on a broad psychological conception, otherwise the organization becomes crystallized and lacks "punch" and spirit.

Knowledge acquired at the top from external conditions and the determined policies of the business should not be "pigeonholed" for the exclusive consumption and inspiration of the board of directors and manager, but as far as reasonably practicable, should be diffused among the personnel, along with the ideals and purposes of the enterprise, as well as information as to its general success or failure in its primary object and struggles so that the workmen can participate in the inspirations of success as well as share in a sense of responsibility for failure. It is participation in these things which lends interest to collective enterprise. Imagine a professional ball team playing game after game and never knowing the score and receiving inspiration from their money compensation only, and yet this is to a certain extent the position which has been forced upon labor in the past.

The old idea that the worker's interest in productive enterprise begins and ends with his wages must give way to a more enlightened policy. Formerly economists believed in some theory of a fixed and immutable wage fund. There is a wage fund in the sense that labor cannot obtain more than it produces and, therefore, labor is vitally interested that production should, with a given effort, be maintained at a maximum. We must bear in mind that this has another aspect, however, than the efficiency of labor i. e. the efficiency of management.

Many wonderful examples of organization are provided by nature, which embody a balance between centralization and decentralization, conspicuous among which are the biological organisms with their voluntary and involuntary functions. These organisms of nature were developed by evolution, and evolution is a vital factor in the development of industrial organizations; so much so that it is important to avoid establishing too hard and fast a conception as to the exact detailed form the organization shall assume, as it must possess within itself the elements of growth and change in order to adapt itself to changing conditions.

Central control does not necessarily mean that all the elements of control are centered in a single individual, but that the executive controls broadly the purposes, policies, object and direction the business takes, and that all functions below him which have been delegated should, in so far as he is concerned, be automatic, with means provided so that he will be promptly cognizant of any failure or disarrangement of the functional processes. Furthermore, he must have means of knowing the degree of efficiency of the operations according to definite standards of requirements.

Consider the old simple form of shop organization of moderate size where the activities of the whole shop are directed in detail by the single foreman. Control is highly centralized in the foreman as well as the detailed direction of the work. The functional operations, however, are decentralized in the workmen. Each workman solves his individual problems according to his individual ability and experience with limited help and direction from the foreman. The work is further centralized if, as is often the case, the foreman is his own material man, does the routing, rate setting and shop engineering.

With slight modifications and extensions, the above represents the method of organization of hundreds of our shops and factories today. Whether consciously or unconsciously, such an organization presupposes as a necessary requisite that the superintendent or foreman is an exceptional man, as only a very exceptional man could efficiently perform all the various functions required of him, and in many cases even the most exceptional man could not do justice to the situation.

Factories, in many cases, started from a small beginning and were supervised in all departments by the individual owner. The undertaking was too limited to warrant any extension of organization; the growth was gradual, the owner's vision became obscured by lack of perspective, it was hardly to be expected that he would appreciate when the moment had arrived that he should avail himself of an organization. Or perhaps his well developed sense of thrift, so necessary in an infant industry, had become over developed. In many cases where the control of an enterprise has descended to a younger generation the new owners are obsessed with the idea that the old way which had been successful in the past could not be improved upon; in other cases, the condition is due to laziness or the dislike of change, or lack of appreciation of social obligation, realization of which is only possible with efficiency in production.

While many of the older industries are suffering from the effects of habit and inertia, newer industries have sprung up around them and being free from such retarding traditions have quickly developed more efficient and effective organizations.

During the past twenty years the integration of productive enterprise has proceeded at a tremendous rate. The primary object no doubt has been commercial strategy and the elimination of cut-throat competition. It has generally been thought also that by combining factories and other means of production, such as raw materials, and by the opportunity offered to take advantage of shorter and more direct freight hauls both in the shipment of raw materials to the factories and in the distribution of the finished product, material economies in production and distribution would be effected.

The integration of individual productive enterprise into the factory system began over a hundred years ago while the consolidation of factories into large combinations under more or less centralized control and management is of comparatively recent origin. This development has primarily been made possible by the development of machinery and the modern development of devices which are comparatively mechanical in nature, such as improved methods of transportation, communication, accounting and finance.

One of the most potent circumstances attending the consolidation of business through the bringing together under one control of several factories, was purely accidental in character, and probably contributed more than anything else to the earlier successes. I refer to the fact that each subsidiary plant or factory was self-contained in its organization and thereby automatically brought about a decentralized organization of the whole undertaking.

No doubt the success of large consolidations of detached and independent factories necessarily with decentralized management under centralized control representing integrations of great magnitude has led many organizers of industry to fail to appreciate that there may be reasonable practical limits to the size which can be efficiently and effectively realized in a centralized organization.

It might be stated as an important principle of organization that the more productive enterprise becomes integrated, the more the management must become decentralized and functionalized. By functionalized, I do not refer to that kind of shop organization which is operated under functional foremen, the primary consideration of which is neither centralization nor decentralization, but is concerned with the most effective utilization of the time and physical energy of the individual workman. By functional organization I refer to specialization in departments and supervision, subdivision of authority and responsibility, according to functions in the processes of production.

The effective limits of centralized organization are usually identical with the limits of the capacity of the individual manager or executive and for this reason this policy in organization, whether pursued consciously or unconsciously, has led to dependence in many enterprises upon the *exceptional man.*

It must be remembered that the development of all democratic institutions is away from the domination of and dependence upon the exceptional man. In fact this has been the history of the development of all science. The real purpose and object of science is so to develop and epitomize facts, invention, experience and knowledge, as to make them available to the average man. Watt invented the steam engine, but the science of thermodynamics and of the steam engine has so developed this art that we are no longer dependent upon exceptional men of the genius of Watt to design and construct the steam engine in the forms of its best development.

I do not mean to state that the science of industrial organization has reached that state where we are independent of the exceptional man. But the tendency will continue in that direction and will more and more approximate to that condition leaving it to the efforts of men of genius eventually to carry it forward to the forms of its still higher development. Exceptional men are rare and it is folly so to organize a comparatively simple industrial proposition on lines which overtax the capacity of the average man when such procedure is unnecessary in the light of the present advancement in the field of industrial organization.

A very important agency is the development of the staff organization by means of which the work of an expert character is functionalized and then decentralized.

Persons who have been employes of the government have chafed under conditions that seemed to them to place unnecessary restraints upon their functioning to their capacity and where it seemed that men were not chosen to fill positions of responsibility on the principle of selecting the men best qualified for the service. The explanation probably rests in the fact that the government so organized its work, perhaps unconsciously, as to meet the capacities of men below the average, responsibility for which must be laid to our democratic political system of choosing government employes. These conditions make it imperative that the most able and experienced organizers should manage government departments.

Organizers of productive enterprises should realize that the limits of extension in centralized organizations are soon reached while decentralization permits of extension to any reasonable limit. Not only is it important to consider the reasonable limits of centralization in the general organization of a whole industrial undertaking, but the reasonable limits to the extension of the individual departments, must also be recognized. Departments can become so extended as to be unwieldly and beyond the capacity of even the exceptional man to supervise properly. The complexity and magnitude of the work may become so vast as to reach beyond the possible mental vision and perspective of the departmental executive and may require further decentralization by departmental subdivision subject to a local or secondary central control. We are all more or less familiar with existing departmental organizations which are so extended that efficiency is impossible to realize and the only cure for which would be decentralization to whatever extent the conception could be applied. It has become a habit in this country to attach great dignity to mere size regardless of the form and texture and unavoidable unwieldiness and inefficiency.

A discussion of the organization of management would be incomplete without some consideration of the requisites of the executive or manager in whose hands to a great measure is placed the destinies of the organization. The workers' and the public's interests are immediate and not remote and must be recognized as a paramount and present claim in the scheme of industrial organization. To this end men must be placed in charge of industries whose minds and ideals have reached some degree of mature and definite development and conviction as to the social value and obligation of business.

The organizers of industry should see to it for instance that the manager possesses a real labor policy. That he knows something about labor in relation to its needs and reasonable rights, that he knows something of its history in its struggles through the generations from serfdom to political and industrial rights. He should have some comprehension of the power of labor when controlled by united action and realize that it is the vital force of production and it must not be systematically thwarted when its vital interests and rights are at stake, but must be sympathetically, intelligently and understandingly guided, not in the direction of the supposed best interest of capital but in the direction of labor's own best interest which will in the end be the best interest of all humanity.

# INTRODUCTION

In the development of this section on *Personnel* the effort has been made to interpret the words broadly enough to include all those carried on the payroll—managers, foremen, as well as the rank and file of other workers with hand and brain. We believe that in the industry of the future it will be expedient to emphasize the bases common to such jobs as, for instance, the president and the worker at the bench. The fact that two such employes perform different functions in behalf of a common enterprise is no argument for looking upon them as different varieties of human beings. Such assumptions in the past have led us into error.

The word *Personnel* has come to smack too much of welfare work. Welfare work has of course not been without its usefulness in the building up of American industry. But in so far as it has been imposed from the top and as a dole it will find no permanent place in the science of industry. The struggle must be in this as in every other phase of industry to have action not only based on truth but motivated from within the hearts and minds of the individuals affected by it. The problem is not so much to teach people to acquiesce in receiving as to build them up so that they will want, and even demand, those things which make for a virile and self-reliant industrialism.

We had planned one other paper for this section which partly on account of considerations of space we have been forced to omit. Its subject was to have been *Working and Living Conditions for the Workers*. We were the more willing to dispense with this particular paper in view of the very comprehensive treatment which the topic has received in several recent volumes of *The Annals*.

We have been very fortunate in the papers we have secured describing the various methods by which the organization of the workers is accomplished in these days when this phase of industry holds the center of the stage. In the article on the Amalgamated Clothing Workers of America by Judge Moses we have an authoritative picture of a union which is audacious, powerful, closely knit and frankly stands for a radical re-organization of society. That its leadership has won to a very large extent the confidence of the employers of the clothing industry is simply a mark of an unusual time.

It will be noted that of the two descriptions of so called "company unions"—the Midvale and the P. R. T.—one is written by a representative of the workers and the other by a representative of the management. A peculiar interest attaches to the story of the gradual enlargement of the worker's share in the conduct of the Consumers' Ice Co. of Detroit as is evidenced by their increasing representation on the Board of Directors until today they have an actual majority. The responsibility for this unique development is clearly shown in Mr. Brown's paper.

John Leitch's plan for *Industrial Democracy* has a great deal in it to fire the imagination of an American. It has already accomplished much good and doubtless is in for quite widespread adoption. The accomplishment of all that it claims to accomplish would be nearly a perfect goal for that type of manufacturer who would be willing "to concede a good deal to labor" if in return he could have the assurance of "peace." It would be unfortunate, however, in the opinion of the editor if because of any general adoption of this plan the models and mechanisms by which we have achieved some measure of political freedom should come to be considered as necessary to the accomplishment of our industrial freedom. We will be barred out from the higher reaches of efficiency if, for instance, we must institute in industry all the detailed checks and balances which have hung like mill-stones about our political life. To borrow an inspiring thought from Helen Marot it is *participation* and not representation which will bring about the ultimate democratization of industry.

Major Boyle's theories appear to run counter to much present day thinking. We certainly have gone too far in the direction of a mechanistic treatment of all employment problems. Industry needs to have injected into it more and more of the human-ness which Major Boyle advocates. But in so far as the author utilizes the old fashioned foreman for the execution of his program we believe he depends on an already overburdened reed. The day of the single foreman is gone. In the development of an efficient functional foremanship industry has a pretty task.

In studying these various schemes for the organization of the workers one must be careful not to place too much confidence in the form of the organization. Almost any one of them may be the means in accomplishing all that it is desirable to attempt to accomplish in any given time. On the other hand there are reasons for believing that almost every plan that has been suggested is somewhere being used to thwart legitimate aspirations for—to use President Wilson's expression—"genuine democratization of industry, based upon a full recognition of the right of those who work, in whatever rank, to participate in some organic way in every decision which directly affects their welfare in the part they are to play in industry."

An employer who is desirous of accomplishing these great purposes can realize them under almost any plan. But no plan can effect them unless it is vitalized by high purpose and great determination.

The one indispensable element in the upbuilding of satisfactory industrial relations is confidence. To create it where it is nonexistent is frequently an heroic task. To safeguard it and carry it to new levels will be the high enterprise of the industrial statesmen of the future.

MORRIS LLEWELLYN COOKE.

# The Selection, Discipline, Training and Placing of Workers

By James M. Boyle

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IN the following words on the selection, discipline, training and placing of workers, I shall deal in generalities to a great extent, as I believe we have all gone too far into details in our consideration of the handling of workers in industry.

It is now the style to deal in nicely differentiated classifications on all subjects. We talk very scientifically in parlors and pulpits nowadays, and many of us have no hesitation in wandering long distances either way from the decimal point. We must try not to get too far to the east of the decimal point with our first significant figure when we are operating in the human equation.

My slight experience leads me to believe in simple ways and manners in dealing with men and women of all social grades, and I find that the workers are not at all different from "home folks" if we treat them as such.

We workers must find ways to get into closer human touch with one another. The wonderful benefits of education are being more and more widely spread, and now is the time for all to try to work out good clean and happy solutions of the many remaining perplexing industrial problems inherited from the past. All of the harmful barriers of convention and precedent that now keep many of our fellow-workers from the enjoyment of good happy lives in this land of plenty must be torn down.

Industry, as our civilization knows it, must invariably have three partners in its firm: money, brains and brawn. The fruits or profits of industry will be fairly divided and paid back to the three partners as soon as we, in our seemingly stupid awkwardness, learn how it may be done. Those who have the good fortune and great privilege to be guiding the industries of this country, must see it as a human problem which can be well and happily solved if it be treated simply and sympathetically.

Let us acknowledge that as the run of mind of us can scarcely handle mathematical problems of three variables, we probably cannot settle the human problem of a thousand variables with numbers and slide rules and long words. Let us try common sense methods and we shall not fail if we keep our ideals high. Let us try to help all of the partners in industry to learn and to understand the simple rules of economics which bound the domain of industry, and outside of which industry and its three partners cannot live.

In the greater number of industries, especially in plants working less than one thousand men, the finding of good workers is by the hit and miss method. Usually it is only the larger organizations that can afford to maintain special departments systematically to select workers. In many of the larger industrial plants the processes of selection, being inherently wrong, fade rapidly to low stages of lethargic efficiency, soon after being launched by the enthusiastic scheme inventor. Usually they are then re-vitalized; or should I say re-systematized, by red tape artists. These gentlemen traffic in complicated curves, weird rating scales and elaborate multicolored forms which when brought down to earth often amount to little more than very indirect methods of card cataloging.

The functionment of human beings is very complex, and probably can never be even reasonably well understood by cold calculators The best selection method from all standpoints is to let the applicants for work "sell themselves" by direct personal appeal to the foreman under whom they are to work. Let him take them on trial. A well trained, responsible foreman will keep the ones he wants and will know how to direct the others into the arms of one of his fellow-foremen, or out through the front gate of the plant, as may be best for all concerned.

Let the applicant select his own job; show him a simple card with big print outline description of the work done in each department; help him to choose; tell him what a fine man the foreman is (don't have a foreman who is not a fine man).

When the applicant decides, tell him which fifteen minutes of the morning and afternoon each day his chosen foreman devotes to hiring new men, and give him an appointment card which will get him into the shop with a boy guide right to the foreman's desk. Leave it to the foreman—you have to in the last analysis.

The proper object of each department or sub-department in a shop is to do its part of the whole work as well and as economically as possible.

It is a very simple thing to keep cost accounts and statistical data which will show the group efficiency of the workers under any foreman. Show your foremen these data and praise them for their able selection of workers. Let the foremen help each other by giving and taking workers from one another when necessary.

Issue a neat booklet describing the town in which the plant is located. Tell about the shop and its output and give the names of all foremen, inviting competent workmen to call or write—they will. Encourage men in the works to send these booklets to their friends. Offer through advertisements in city papers to send the booklets to any address.

In a word, select your workers by the ordinary common sense method of clean cut, personal contact between the man who will rank next above the applicant and the applicant himself.

The best way to maintain discipline in industrial plants varies as to details with the grades of intelligence encountered. In general it calls for the fixing of a few simple, reasonable rules of conduct, and the development of a sense of self-respect in the workers.

In any group of men there are a few who stand out above the others in the matter of dignity and self-respect. The other men are usually just as willing and ready to abide within the limits of fair and reasonable rules of conduct, but have not had the benefits of as good home training, and so are superficially unruly. They must be guided, and will almost always willingly follow the better man's lead.

A plan which I recommend is the appointment in the factory of, originally, about five per cent of the personnel with the rating "*First Class Workers.*" These men should be selected for their competency, dignity and self-respect, and should be chosen from all departments of office and works. They should include the works executives and officials. Once established they should elect new members to their rating by vote, each department group electing its own additions. The First Class Workers should be encouraged to keep their standards high, but at the same time to elect as many members to the rating as possible.

These men should have special duties and prerogatives, such as countersigning passes to the works after hours, admittance as "audience" to foremen's technical conferences, meeting distinguished visitors to the plant, being deputized by their foreman in matters of department trust and responsibility, consulted as to plans and specifications for new machinery and facilities, etc., etc.

There should not be an officious interference of one class of workers with the functions of another class. Let the treasurer run his check books, the screw machine operator his automatics, the directors their business affairs, and the fireman his boilers. Don't try to run business like the army in Hayti—all generals—it may work as a matter of gold lace display on the parade ground, but it won't work in the Battle of Bread and Butter.

Questions of discipline should be referred to the standard of the First Class Workers' conduct for appraisal.

The training and placing of workers is also more or less of an individual problem with each industrial organization, and must be considered with intelligence and common sense.

Training in the shop means simply letting the young worker actually experience by doing with his hands and head all of the operations in his department. The already expert, experienced workers (excepting the jealous grouches) are the best teachers and will help the young new-comer if there is a real demand for new-comers. Show him why there is such a demand.

Young people learn readily, and those who are ever going to develop in a given line show satisfactory evidences to a competent foreman at once. Don't keep a failure on any work—it's hurtful to him. Have your foreman induce the young men workers to study after hours. The difference between twenty dollars and forty dollars a week to many a man was found in three sessions a week at night school for a year or two.

Young men in the mechanical industries can be readily induced to attend night schools. The night school work of all young men in any given department should be followed by the foreman of the department just as an intelligent father would follow his son's work; and for the same reason, let it be known,—with a kindly, sympathetic interest, looking forward to the advancement of the young men through the department and as far beyond in the work world as the boys can go.

It may be said that some labor will not respond to such kindly interest and surveillance—I have yet to meet that kind of man. Naturally if industries try to handle such matters through cold outsiders, not a part of the workers' working fraternity, they will succeed about as well as the proverbial over-busy business man who trys to love his family by machinery (automobiles, yachts and lap dogs)—it can't be done.

The immediate ranking superior of any worker should be his mentor and guide as far as may be, and should in such capacity represent the executives who in turn are the stewards of the owners, the stockholders. This spirit if properly and *honestly* developed will produce wonderful results; it is simple and as old as the hills.

Training older men in the shop is very difficult, due, often, to their false pride and insistence on their own personal ideas and methods. Patience, intelligence and time must be the tools of the foreman in this job, and he will go far if he follows the Telephone Company's advice and keeps a smile in his voice.

The out of shop training of the older workers is also not so easy as with younger men. The older men have their family affairs after hours and are also more likely to be fatigued by the day's work. It would be profitable, I am sure; for most industries to try to develop these workers a little past the point to which their ordinary day's work carries them—and here again I would urge doing it in the name of the foreman or superintendent.

For example, a moving picture exhibition on the foundry floor after hours, to which all the foundry men and their wives are invited, will show them "how other plants do it." Funny films make a holiday performance of it. Have the best talker of the sales force on the "platform" and let him sell the plant output back to the men who made it. Let the metallurgist explain some of his micrographs and be prepared to answer embarrassing questions. Have some sort of a "community meet" for each group once or twice a month, and as far as possible mix fun with the instruction, and include the wives of the men once in a while.

At all contacts between workers keep the simple, fundamental facts of economics in the forefront. There are myriads of people who believe purses may be and are made of sows' ears—and that the secret of that highly lucrative performance is being hidden from them. Intelligent, trained workers will greatly help the less fortunate ones to see the real ins and outs of such purse making.

Ambitious workers usually "place" themselves. The good ones among the less ambitious must be helped and encouraged to go up. Some men are too modest to suggest that they be promoted to better jobs, and others are afraid of the jealous opinions of their fellows. They must be tactfully sorted out, and no man should be allowed to work much below his maximum mental capacity.

This sorting generally calls for the action of the foreman at least two grades above the worker. The immediate foreman naturally wants to keep his best men, both because of the workers' efficiency and because of his friendship and familiarity with the men. A tactful superintendent who knows how to appreciate and praise his foreman for developing such good workers has only to say the word in most cases of this kind.

It seems to be impracticable to go far with record systems in placing workers, especially in shifting men in the organization. Certain simple control records of workers should be kept principally for their protection against jealousy and the like, but in the actual size up of each proposal for change or promotion a few words between the foremen concerned, in the presence of a head foreman or assistant superintendent costs less and is better and fairer for all.

People are instinctively selfish of their own interests, and will fight to work in the light so that they may see things clearly and be sure they and their families who depend on them are not going backward in prosperity. My contacts with some of the leading men in this country, captains of industry in heart as well as mind, let me know they are working for exactly the same thing the worker wants—prosperity, self-respect and contentment. These men would have no trouble with any of the workers if they could work with them personally. But that is impossible and so they must trust to the personal touch of their lieutenants—not the maudlin sentimental "welfare" touch of the opportunist—but an honest, sympathetic, brotherly relationship which every upstanding man appreciates and values highly.

The ablest workers in our industries are toiling day and night in the development of future plans to advance properly the status of their fellow-workers, and to divide fully and fairly the profitable results of their efforts between the three inseparable partners of all industry: money, brains and brawn.

# Wages, Hours and Individual Output

By N. I. Stone
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## The Economic Law of Wages

THE question of compensation is inseparable from the general wage problem. Limitations of space preclude a discussion of the theory of wages and those interested in the problem are referred to standard theoretical works on the subject. Nor would the theory of wages as developed by economists be of much practical aid for the purposes for which this volume is published.

The Marxian theory, which is held by the Socialists and is the ultimate logical elaboration of the classical theories of Smith and Ricardo, holds that wages are determined by the cost of maintaining a worker and his family at the standard of living prevailing in society at a given time. As the standard of life is, however, a very elastic quantity varying greatly among different groups of workers living in the same country and in the same period, the Marxian theory, whatever its theoretical merits, is of little practical value for our purposes.

At the other extreme of economic thought is the "marginal utility" theory which is today the accepted theory in our schools and universities. According to this theory, the rate of wages is determined by the "marginal" or ultimate utility or productivity of labor, that is to say, by the specific contribution which the last available laborer makes to the necessary product of society.

The two theories really supplement one another, and mark the limits within which wages fluctuate in actual practice under the varying and interacting influences of supply and demand. Under the most unfavorable combination of these two factors wages cannot permanently remain below the prevailing cost of living of a workman's family without disaster to the workers as well as to the entire economic structure of society. On the other hand, wages cannot permanently rise above the value of the product contributed by labor, since no industrial enterprise, be it large or small, could survive in the struggle of competition, if it continued for any length of time to pay out more in wages than its labor force has contributed to the value of its products.

Between these two extremes there is an endless gradation of rates of compensation determined by a variety of circumstances, among which the supply of and demand for labor, the prevailing cost of living, the productivity of labor and, last but not least, the strength of labor organizations exercised in collective bargaining, play the chief part.

The process of "bargaining," in a broad sense is the most conspicuous factor in wage determination. The bargaining may take the outspoken form of a bargain driven between a single employer or an association of employers on the one hand and an individual workman or a workmen's union on the other; or it may be disguised under the form of a workman hunting a job and accepting what he is offered when the supply of labor exceeds the demand or, vice versa, of employers scouring the market for labor and paying what the workman demands when the demand for labor outruns the supply, as was recently the case at the height of war activities. In either case the bargaining process goes on, with labor handled as any other commodity, the buyer (the employer) trying to get his commodity as cheaply as he can, and the seller (the workman) striving to obtain the highest possible price.

Were the analogy between labor and any other commodity complete, there would be nothing further to be said on the subject. The similarity between labor and other commodities, however, ends at this point. For, while the seller of an ordinary commodity parts with it as soon as he has delivered it to the buyer, the seller of the commodity known as "labor" is inseparable from it. It is from this circumstance that all the perplexities of the modern labor problem spring. And it is to the failure on the part of employers to take this fact into account that most of the "labor troubles" can be traced.

## WAGES AND LABOR COST

Even in buying ordinary commodities we have learned that the lowest priced article is not necessarily the cheapest. An experienced buyer will consider not only the price he is asked to pay, but also the quality of the article he is getting in the bargain. Unless the article is a staple commodity absolutely standardized under market requirements, such as wheat or pig iron, the lowest price will not necessarily mark the most economical purchase. A suit of clothes made of shoddy, though looking exactly the same as one made of virgin wool, will not last as long and, though selling at a much lower price, will prove the more expensive of the two, when the price paid for each suit is divided by the number of months of wear each gave.

This elementary truth is recognized by every experienced employer and foreman in comparing the usefulness of different employes; the worker who possesses superior skill or, who with the same skill works with greater speed, is always preferred and is readily offered a higher wage than the prevailing rate for workers of average speed or skill. But that the same labor force can be made cheaper by raising its wages or shortening its hours of labor, or both, is still an unknown fact among the great body of employers, superintendents and foremen, and, when stated, is regarded with distrust and with doubt in the practical wisdom of the man who advances this view. Yet, it has now been accepted as an elementary principle of the science of management among industrial engineers.

Stated baldly, the proposition that high-priced labor is cheaper than low-priced labor, and that shorter hours are more productive than long ones sounds like a paradox. If that be true, then the age-long struggle between capital and labor for higher wages and shorter hours has been the most tragic misunderstanding in history in which the employers have wasted millions of dollars and countless lives fighting against their own interests; while labor, trying to improve its own lot, has unwittingly fought for capital's best interests, trying to save it from its own folly.

As an industrial expert has well put it in a leading magazine devoted to industrial management, "it is the inefficient manufacturer who bewails most the size of his payroll. The efficient employer should pray for wages so high that his less efficient competitor will go out of business."[1]

The misunderstanding is easily explained. All things remaining equal, the higher the rate of wages, the greater the labor cost of the manufactured product. This is perfectly logical, but rests on the false premise that all things remain the same when a change in wages occurs. As a matter of fact, they seldom, if ever, remain unchanged. The mere increase in wages will not of itself produce the miracle, unless labor is so underpaid as to cause the workers to be poorly nourished, inadequately clothed, and housed under unsanitary conditions. In that case a substantial increase in wages which would enable them to eat nourishing food, wear clothing that will protect them against inclement weather and live in warm, light rooms in healthy surroundings will of itself improve the condition of the individual worker as a producing machine so as to increase greatly his productivity. It is but a common sense application of the rule which prompts a sensible man to feed his horse oats, instead of keeping it on an exclusive diet of hay and to provide well sheltered, clean and sanitary barns for his cattle, instead of neglecting it as a stingy, short-sighted farmer is apt to do. It was because of facts like these, that the Ford plan of providing a minimum rate of $5.00 a day, practically doubling the earnings of the bulk of his employes, proved such a huge success, and instead of increasing his cost of production, produced the opposite effect.

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[1] W. R. Bassett—*Have We Reached the Limit of Wages?* *Factory*—February 1919, p. 255.

With the war over and international trade about to resume its interrupted course, the cry for protection of American labor against the pauper labor of the old world again resounds through the country and the majority party in Congress bases its program for an immediate revision of the tariff almost solely on that ground. It is therefore felt that the universality of the law that high wages and short hours spell lower costs rather than the opposite, requires further demonstration.

The writer's attention was drawn to this aspect of the problem with particular force, while it was his good fortune to come into intimate contact with some of our industries when in charge of investigating into the cost of production for the United States Tariff Board. Some of the most important facts ascertained in those investigations will therefore be reproduced from an earlier statement by the writer:[2]

> The first fact established by the Tariff Board was that there is no such thing as a cost of production in a given industry not only in one country, but even in the same city.
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> As confirmed by the later investigations of the New York State Factory

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[2] N. I. Stone. *Is the Minimum Wage a Menace to Industry? Survey*—February 6, 1915.

Investigating Commission, and the Massachusetts Commission in other industries, and of the Wage Scale Board of the Dress and Waist Industry in New York City, the tariff board found that establishments existing side by side and competing in the same market are paying wages differing as much as 50 per cent for substantially the same grade of labor. It also found that neither the labor cost nor the total cost of production varies in a direct ratio with wages.

Thus in paper and pulp manufacture it was found that the labor cost of making a ton of news-print paper in the United States varied from $2.19 to $7.26 per ton.[3] The most remarkable fact about it was that the mills paying the lowest wages and having a twelve-hour day, had a higher labor cost per ton of paper than those paying the highest rates of wages and having an eight-hour day.

The solution of this puzzle lies in the chapter of the report dealing with the efficiency of equipment in paper mills. Mills were found to vary greatly in this respect. Some had machinery thirty years old; others boasted of machines with latest improvements. The older machines had a capacity of 17 tons in 24 hours, whereas the newer machines could produce 50 tons. The result, according to the tariff board report (page 52), was that the machine cost of labor per ton of paper was $1.84 on the old and only 82 cents on the new, the same rate of wages being paid to the machine tenders in each case.

But important as the mechanical equipment is in determining the efficiency of labor, the human equation responds even more readily to variations in wages and hours.

When the agitation for the removal of the import duty on news-print paper resulted in an inquiry by a special committee in Congress, a representative of the largest paper mill company in the country pointed to the fact that they had recently reduced the hours of labor from twelve to eight, without reducing the weekly rate of wages, incurring a corresponding increase in their labor cost. The figures secured by the tariff board from the books of several mills (including those to which reference was made before the committee of Congress) showed a diminution in the labor cost per ton of paper from $4.35 to $3.73 in 1909, under the eight-hour system. In other words, an increase in the hourly rate of wages to the extent of 50 per cent not only failed to result in a corresponding increase in the cost of labor per ton of paper, but was accompanied by an actual lowering in cost. Though the figure of $4.35 in 1908 happened to be the highest in ten years, the tariff board report (page 79) showed that there was not a single year in that decade under the twelve-hour system which showed as low a cost as in 1909, the first year under the eight-hour system. On the other hand, when it is remembered that during a large part of the year of 1906 the mills were idle owing to the strike for shorter hours, and that costs are usually above normal when a plant is started up after a period of idleness, there is every reason to believe that the labor cost was still further reduced after 1909.

Yet it cannot be said that there was a radical change in the equipment of the mills to which these figures relate, immediately following the introduction of the eight-hour shift. The change was due largely to the increase in the personal efficiency of the workers under the shorter day. The duties of a machine tender in a paper mill consist chiefly in watching the thin liquid sheet of paper as it first appears on the large cylinder of the machine. A slight twist at the outset will result in reams of paper being torn on the cylinder, and a mad rush of all the tenders in an endeavor to set things right; and it will frequently require a complete stoppage of the machine, all of which greatly increases the cost of production. The fatigue caused by twelve hours of such nervous and physical strain, had resulted in a much greater proportion of damaged paper and interruption of work than was the case after the adoption of the eight-hour day.

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[3] *U. S. Tariff Board Report on Pulp and News-Print Paper Industry,* 1911, p. 39.

With the hours of labor cut down from twelve to eight, the machine tender was relieved from duty during the last four hours which were the most trying to the nerves and muscles of a worker, when his alertness and general efficiency were at their lowest ebb. The reduction of hours not only enabled him to leave the mill less fatigued than formerly, but with the resting period increased by four hours a day, the recuperation was more thorough; so that his alertness of mind and body was greater upon his return to work than under the old system it used to be even during the first eight hours. With his mind and body more alert, he was able to detect in time imperfections which formerly escaped his attention.

This resulted in so great an increase in the relative time the machines were in actual operation (free from breakdowns and stoppages), accompanied by a reduction in the quantity of damaged paper on which, in the preceding stages of production, labor had been wasted, that the labor cost of production of paper declined, in spite of the increase in the hourly rate of wages, by as much as 50 per cent.

Even more striking proved many of the facts disclosed by the investigation of the cotton industry. In spite of higher wages prevailing in the United States, as compared with England, and the longer start which the English cotton industry has had over the American, it was found that many varieties of cotton goods, including some of the finest women's dress goods, were sold at lower prices in the United States than in England, and exported to Canada in competition with British goods despite the preferential tariff in favor of England which places imports from the United States at a disadvantage.

That American cotton goods compete with English in China and South America, was known before the tariff board made its investigation. But fear was expressed of the coming menace of Japanese competition with its fifteen-cents-a-day weavers. The tariff board, therefore, extended its investigation to Japan, and figures compared with similar data for corresponding mills in the United States led to the startling revelation that, with the superior American machinery and superior personal efficiency of American labor, the American weaver receiving $1.60 a day was in certain cases cheaper than the Japanese weaver at 18½ cents a day.[4]

A study by the tariff board of labor efficiency in the various processes of wool manufacture showed that almost invariably the mills paying higher rates of wages per hour, produced goods at a lower cost than their competitors paying lower wages.

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[4] U. S. Tariff Board Report on Cotton Industry, p. 12. *Weavers wage bill,* table 162, p. 526.

Thus, in wool scouring the lowest average wage paid to machine operatives in the thirty mills examined, was found to be 12.16 cents per hour, and the highest 17.79.[5] Yet the low wage mill showed a labor cost of twenty-one cents per hundred pounds of wool, and the high wage mill had a cost of only fifteen cents. One-half of the difference was accounted for by the fact that the low wage mill paid nine cents per hundred pounds for supervisory labor, such as foremen, whereas the high wage mill paid only six cents, showing it had more efficient management.

In the carding department of seventeen worsted mills, the mill paying its machine operatives an average of 13.18 cents per hour had a machine labor cost of four cents per hundred pounds; while the mill paying its machine operatives only 11.86 cents per hour had a cost of twenty-five cents per hundred pounds. This was due largely to the fact that the lower cost, high wage mill had machinery enabling every operator to turn out more than 326 pounds per hour, while the high cost, low wage mill was turning out less than 48 pounds per hour.

The same tendency was observed in the carding departments of twenty-six woolen mills. The mill with the highest machine output per man per hour, namely, 57.7 pounds, had a machinery labor cost of twenty-three cents per hundred pounds, while the mill with a machine output of only six pounds per operative per hour had a cost of $1.64 per hundred pounds. Yet this mill, with a cost seven times higher than the other, paid its operatives only 9.86 cents per hour, against 13.09 cents paid by its more successful competitor.

These examples could be repeated for other departments of woolen and worsted mills, but will suffice to illustrate the point that higher wages do not necessarily mean higher costs. They show that mill efficiency depends more on a liberal use of the most improved machinery than on low wages. Thoughtful planning in arranging the machinery to save unnecessary steps to the employes, careful buying of raw materials, the skillful organization and utilization of the labor force in the mill, systematic watching of a thousand details, each affecting the cost of manufacture, will reduce running expenses to an astonishing degree.

It may be said that there need not be any relation between the pay of the help and the efficiency of the management at the head of the mill. There seems to be no necessary connection between the two, yet economic literature is full of references to the fact that successful strikes resulting in an appreciable rise of wages or reduction of hours have been followed by the introduction of new machinery or other labor saving devices to offset the heightened cost. All things remaining equal, an increase of wages must necessarily lead to an increase in the cost of production. The threatening diminution of profits, acts as a powerful stimulus to the owner or manager of a plant who is anxious to make possible savings, where he was satisfied before to plod along in the established rut.

The illustrations cited above, although taken from industrial records, are the results of statistical investigations. They would, perhaps, sound more convincing to the average business man if supplemented by facts gathered from actual experience of practical manufacturers. Such experience is most entertainingly described by Secretary of Commerce Redfield in his brilliant little book *The New Industrial Day*, published shortly before the war. Almost all the facts he recites are the result of his personal experience of 25 years as a manufacturer and seller of American products in foreign markets.

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[5] *Tariff Board Report on Wool and Manufactures of Wool*, p. 1022.

> How does it happen [says Mr. Redfield] that in a quotation recently made for machinery to a mine in Japan the American price was $215 less than the English price? How does it happen that American locomotives are running upon the Japanese railways, upon those of Formosa, upon those of Manchuria and Brazil? These are sold in competition with makers in Great Britain. I know what those locomotives cost, relative to those made by German and English manufacturers; and I happen to know this, which is one of several stories which will illustrate this particular contention—namely, that last year I was in the city of Tokyo, and a friend who was with me took a large contract from the Japanese Imperial State Railways, in open competition with Germany and England, for several million dollars' worth of locomotives. That gentleman went to the locomotive shops of the Imperial Railways, and the Japanese master mechanic said to him: "We can make locomotives much cheaper than you can in America."
>
> "Can you?" inquired my friend. "If so, let us get at the facts. If you will tell me from your cost sheets what your locomotives cost, I will tell you what ours cost." And, by the way, he said: "What makes you think your locomotive cost less than ours?"
>
> "Why," the Japanese replied, "because we pay only one-fifth the wages to our men that you pay to yours."
>
> So they got the cost books, and discovered that the labor cost for locomotives on the same specifications was three and one-half times greater in the Japanese shop than in the American shops. That is a perfectly normal fact and not an abnormal one.[4]

It's a far cry from a locomotive to a screw, but not so far when the question of labor costs is concerned. For the same law governs the relation of wages to costs in all industries.

> Once says [Mr. Redfield] "an Englishman asked me to go into his works and suggest how to cut down his labor cost. What I found at that particular time in that English factory was this; a screw machine was making bolts of various sizes, and a boy was running it at a very small wage, probably about two shillings a day.
>
> I stood looking at the boy and his product; first, twenty half-inch bolts, and then twenty-five one-eighth-inch bolts, and then fifty three-quarter-inch bolts, and then five or six one-inch bolts, and then back to quarter inch. I went to the

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[4] Redfield—*The New Industrial Day*, p. 84 and 85.

> superintendent and said to him, "That boy is costing you more than a man who earns $3 a day would in one of our shops. His time is used in altering tools. He is "breaking up," as we say, altering his machine from time to time and stopping his processes ten to fifteen times a day.
>
> He said, "What would you do?"
>
> I said, "Give him one size and let him run all day on that. The next morning give him another size and let him run all day on that, and the next morning give him another size; do not stop your machines, but run them steadily on one size."
>
> "Why," he said, "we cannot get foremen to think that out."[7]

Perhaps the most striking illustration of the effect of low wages on the *personal efficiency* of a worker is contained in the following story recounted by Mr. Redfield:

> Once, when my office was located in Paris, I employed a lot of French carpenters and paid them ten francs a day—$1.90 each—and at the end of three or four days I was well-nigh crazy. Down the long aisle of the building I saw a familiar-looking tool box, with a saw sticking from the end, and I ran to the place and found a man who looked like an American carpenter.
>
> "Are you a Yankee?" I said, "I want to employ you at once."
>
> He said, "Boss, I charge $4.50 a day."
>
> I said, "Come right along."
>
> Two days later I discharged four Frenchmen, for my one American carpenter did more work than the four Frenchmen—and I saved money by the process.
>
> There are sound reasons why the American carpenter did as much work as four Frenchmen.
>
> A French workman goes to work having eaten almost nothing. For breakfast he has nothing more than a bit of bread, without butter, and coffee. At eleven o'clock he stops to eat a little bread and drink a little sour wine. At three o'clock he stops again to eat a little bread and drink a little sour wine. After he gets through at night he has what he calls a dinner. Such a man cannot work at any labor requiring steady physical exertion continuously under pressure, in competition with a man who eats three square meals a day.[8]

Books could be filled with facts from industrial experience to demonstrate the absolute fallacy which clings so stubbornly to the mind of the average employer that low wages are synonymous with low costs. It is hoped, however, that the few illustrations taken from so wide a range of industries are sufficient to establish the fact that a wage rate is meaningless in determining costs, unless taken in conjunction with output. But if a general rule is to be formulated as to the relation of wages to costs, it would be much safer to say that high wages spell low costs, than the contrary.

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[7] *Ibid.*, p. 92 and 93.

[8] *Ibid.*, p. 91 and 92.

How generally true this is, supported as it is by the experience of the greatest variety of industries, industries run on a large scale and small, under Scientific Management and indifferent management; employing men and employing women; paying by the piece and paying by the week, is shown by the following list of American products offered for sale in foreign markets in competition with the cheaper labor of Germany or England, which Secretary Redfield cites at random from the columns of an American export journal:

> Ironmongery, fine tools, bicycles, sporting goods, lamps, razors, firearms, carriage makers' supplies, sanitary goods, lighting systems, dry goods, men's furnishing goods, boots and shoes, corsets, hats and caps, textiles, clothing, women's furnishings, office furniture, office devices, stationery, typewriters, filing cabinets, printers' supplies, paper, machine tools, boilers, lubricants, electrical material, valves, wood-working machinery, belting, shafting, pulleys, packing, furniture, kitchenware and agricultural implements.[9]

## RELATION OF COMPENSATION TO OUTPUT

### *Week Work*

That high wages are economical when accompanied by a corresponding output, is easily understood. "But," says the average employer, "the two do not necessarily go together. The tendency of the average worker, especially, the union worker, is to lie down on his job. When paid by the week, he tries to keep down his output partly from inertia and a natural tendency to 'take things easy,' and partly from a feeling that the less he will produce, the more work there will be to go around among his fellow-workers. And this, in turn, he feels, will keep down competition for jobs among workmen and help keep up wages."

Unfortunately, this charge is justified to a large extent. It is the way human nature works under certain conditions. Knowing that he will be unceremoniously thrown out on the street when not needed, and having no desire to subject his family to the hazards of hardships or starvation, which is the lot of the unemployed man, the workman has no more regard for the interests of the employer than the latter reveals for him. Not until industry or society provides adequate safeguards for the interests of the worker who suddenly finds himself displaced through no fault of his own, can he be expected to change his attitude.

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[9] *Ibid.*, p. 88.

Manufacturers, industrial engineers, foremen and all those who employ labor in industry, prefer, therefore, to base compensation on output, except in industries where the work of the employe is so controlled through the operation of his machine or the organization of the factory or mill that he cannot easily reduce output.

### *Piece Work*

*Advantages of Piece Work.*—The simplest way of basing compensation on output is through piece work. The compensation of the worker is strictly proportional to his exertions. The more he produces, the greater the contents of his pay envelope. With the piece rate once determined, the system seems to work fairly to both sides. The interests of both employer and employe seem to be identical, since the more the worker earns, the greater the production and, therefore, the lower the overhead expense of the plant per unit of product.

*Disadvantages of Piece Work.*—Unfortunately, the same cannot be said of the rate itself. There is an obvious conflict of interests in determining the rate, the old game of the seller (the worker) trying to get the highest possible price and the buyer (the employer) seeking to buy cheap, reasserting itself in this case. If this were the only drawback of the piece rate system, it would be eliminated, at least, upon the determination of the rate. Unfortunately, industrial practice has intensified the evil a thousand fold and has caused piece workers to restrict output with no less determination than that shown by time workers. This practice consists of cutting down piece rates when the workers earn "too much" money.

1. *Rate Cutting.*—The late Frederick Taylor addressing the Efficiency Society of New York shortly before his death gave a striking recital of the reaction of the worker under this practice. He told of his early experience as a mechanic at the Midvale Steel Company plant and how, when he attempted to do an honest day's work he was warned by his fellow-workers to "go slow." The admonition was so emphatic that he soon found it best for

his health to fall in line with the rest of the crowd. A few years later he was promoted to a foremanship.

On assuming his new duties he called together all his fellow-workers and pointed out to them that having come up from the ranks he knew all the tricks of the "laying down" game and that, therefore, he expected them to turn a new leaf and do the best they could. In turn he assured them that they need have no fear of their piece rates being cut no matter how much their earnings might go up as a result of their increased efforts. The workers took him at his word and went to work with a will. Soon the new foreman was the talk of the plant, for he was breaking all records of production. It was not very long before one of the directors of the company visited the plant and heard of the remarkable performance of the new foreman. Being of a curious mind, he looked up the shop personally and inquired for the pay roll.

Like the good business man that he was, he was shocked by the inordinately high wages of the employes in Taylor's shop exceeding by several dollars the prevailing rate in the industry. He ordered the rates cut in spite of all the pleadings of the superintendent and the foreman who pointed out the destruction of morale among the working force which this act would cause. Needless to say that the effect was to destroy all the confidence in the integrity of the employer which Mr. Taylor had built up among his men. His despair knew no bounds. Most men in his place would have given up the struggle, but Taylor was no ordinary man. The shock he experienced caused him to do some hard thinking and from this experience was born his *Principles of Scientific Management.*

Mr. Taylor's experience was not exceptional. Anyone with the least industrial experience can cite similar instances from plants under his own observation. This virtually uniform practice has embittered the workman and has undermined his confidence in the employer to an extent that no amount of assurance of a change of policy seems able to restore.

Much of the rate cutting is due to cupidity or short sightedness on the part of employers who do not realize that for every dollar in wages which they thus save they lose infinitely more in lost efficiency caused by the curtailment of output by workers to which they are forced to resort in self-defense.

But even with the best of intentions on the part of employing management piece-rate cutting is frequently unavoidable. In a plant having much sub-division of labor, it is impossible to allow a rate to remain uncut where it yields a particular section of workers earnings so high as to be out of all proportion to those of workers in other sections. If the prevailing earnings of skilled workers of that craft are, say, $5 per day, and a miscalculated piece rate yields workers on a particular operation $10 per day, all the other employes will demand an increase in rates to bring their earnings up to the level of the lucky section. It is a psychological law. There are no absolute standards of earnings which will keep a worker satisfied. His satisfaction is largely based upon a sense of relative justice measured by comparison with prevailing earnings among groups of workers of similar skill.

2. *Loss of Earnings Through Inefficiency of Management.*—Another strong objection to piece work raised by workmen is based on the loss of earnings which they incur through inefficiency of management or other losses beyond their control. Only highly efficient plants—and their number is as yet small—know how to maintain an even flow of work throughout the plant. The balance of work between the different departments of the plant is rarely maintained on an even keel for any length of time. As a result, workers in one department may be idle for hours, or considerable parts of the day, and sometimes even for days, while other departments have more work than they can handle. Poor control of the stock room results in the lack of one or more items of material being discovered at the last moment, when it is too late to prevent interruption of work. All these breaks in production fall with their full weight upon the worker, depriving him of earnings through no fault of his own, while his time is at the call and disposal of his employer.

3. *Speeding.*—A third objection to piece work raised by workmen, particularly by organized labor, is the excessive speeding which the system encourages to the great detriment of the workers' health, frequently causing physical breakdown in the prime of life.

4. *Jealousy and Favoritism.*—The desire to earn as much as possible causes a good deal of racing among the workmen provoking jealousies among them which foremen know how to utilize

to prevent solidarity among the workers, by making favorites of some and discriminating against others. Union men are often given less desirable work than those who do not belong to the union; frequently they are made to wait longer for their work in the intervals between one job and another.

5. *Sacrifice of Quality.*—An objection to piece work which comes from employers is the tendency on the part of workers to sacrifice quality for quantity. Insistence on the part of the management on standards of quality leads to friction with the help.

Such are the objections to piece work which have caused the industrial engineer to seek other means of compensation for labor. With all its drawbacks, however, the piece-rate system has the great advantage over the straight time-work in that it gives the workman a direct interest in his output, since his compensation rises automatically in a direct ratio to his effort and skill. From the point of view of the employer the piece-work system offers the great advantage of making wages strictly dependent upon output and automatically stopping wage leaks which are so common under the straight time-work system. Any substitute for piece work must, therefore, retain its advantages while eliminating its disadvantages. This ideal is believed by leading industrial engineers to be attained in

### *The Time and Bonus System*

The essential feature of this system of compensation for labor is the return to the original plan of paying the workman a wage on a time basis. This is based on the recognition of the fact that the workman is entitled to a certain minimum compensation for his time and labor power which he places at the disposal of his employer. At the same time his interest in his output is stimulated by an additional compensation, known as bonus or premium, which is based upon output.

There are several systems of bonus compensation. The best known plans are all based on careful time studies as a preliminary to fixing any rate of compensation. All of these systems have in common: 1) a straight hourly rate for each operation based upon the skill it requires; 2) a definite time allowance for every operation; 3) an additional compensation, known as "bonus" for doing the work in less time than the allowance calls for.

*Advantages of the Time and Bonus System.*—There are definite advantages and distinct merits attached to the time and bonus system of compensation. 1) First and foremost from the point of view of justice to the worker is the definite minimum hourly compensation independent of his output. The worker is entitled to a living wage, if he is at all fit to be employed. Straight piece work does not assure him such a minimum wage. Straight time work gives him a definite wage, but deprives him of any additional compensation in proportion to increased effort, skill or speed. It thereby destroys the incentive to conscientious endeavor, thus hurting the interests of the employer and employe alike. 2) This incentive is present under the bonus system, although the bonus earned is usually not proportionate to the increased output, as is the case under piece work, as will be shown below. 3) As already stated, the definite time allowance for each job is based upon careful time study. While there has been a good deal of well merited criticism of the methods employed in time studies,[10] the conscious aim of leading industrial engineers like Taylor, Emerson, Gantt, Barth, *et al*, has been to determine, by careful and conscientious study of the motions of several workers on a given operation, "the time it ought to take to do the work without undue effort when every unnecessary waste is eliminated."[11]

In this respect the time and bonus plan is superior to the old time piece rate system. The predetermined time allowance based upon the elimination of "every unnecessary waste" reduces to a minimum the chance of fixing the rates out of all proportion with existing standards of wages, with the unpleasant necessity of cutting the rates, a practice so disastrous to the worker and employer alike.

On the other hand, the time study aims to determine a fair time allowance for every job "without undue effort." Speeding is frowned upon by the enlightened engineer who recognizes that anything that injures the health of the worker cannot be of permanent benefit to the industry. Scientific time studies have established the fact that every person and every job have their own time-rhythm which determines the normal rate at

[10] See Robert F. Hoxie, *Scientific Management & Labor*, Appleton Co., 1915.

[11] Harrington Emerson, *A Comparative Study of Wage and Bonus Plans*. New York, 1917.

which the work can best be done. To illustrate: the normal gait for walking for the average person is, let us say, three miles per hour; for a child it may be only one mile an hour. A normal man walking at the rate of a child would feel more tired at the end of an hour after walking one mile, than he would, if he walked three miles at his normal pace. On the other hand, he would not only be tired but exhausted, if, through speeding, he managed to walk five or six miles in one hour. Scientific time study aims at establishing the normal rate of speed, avoiding "undue effort" on the one hand, and "every unnecessary waste" of time or effort on the other.

Having established the standard time for an operation through time study, there is no reason why a proper piece rate cannot be established just as accurately as a bonus rate, which would prevent the necessity of cutting the rate later. At the plant of Joseph & Feiss of Cleveland, where Scientific Management is in practice, practically all work is done at piece rates based on time studies and the system has been in successful operation for nearly a decade. The claim of this piece rate system to superiority is based on the fact that the rates being determined through time studies, there is no occasion for cutting them. But even this safeguard does not relieve it of the charge that, in common with all piece rate systems, it encourages speeding. This is overcome in part by deductions from pay for each defect discovered in the work of an employe and an equal reward for every defect discovered by the employe in another person's work. Not all bonus plans operate in the same manner in their effect on speeding. Some offer an incentive to speeding far worse than straight piece work, while others are calculated to discourage it. We will consider here the five best known bonus systems.

*The Halsey Premium Plan* was the first bonus system adopted. Under this plan the worker receives one-third, or one-half of the time saved. Thus, if the time set for a job is four hours and the rate is 50¢ per hour, and if the job takes actually only two hours, the worker would receive, under the one-half premium plan, 2 x 50, or $1.00 for the time he worked plus ½ of $1.00, or 50¢ for the time saved, making the total wage $1.50 for two hours, or 75¢ per hour. Under the one-third plan he would receive $1.00 plus 33¢, or $1.33, or 67¢ per hour.

The Halsey Plan was adopted before scientific time studies were in use in industry. The premium it offers the worker is based upon standard time as determined by previous records in the shop. There is nothing inherent in the Halsey plan, however, to prevent its adoption in combination with scientific time studies. Under this plan both employer and worker are benefited as the efficiency of the worker is increased, as shown by the figures in Table 1.

TABLE 1
ILLUSTRATION OF HALSEY'S PREMIUM PLAN

| Hours | | | Compensation | | | | Labor Cost | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | Actual | Saved | Time Wage | Bonus | Total | Total Earnings per Hour | No. of Units Made | Total Labor Cost | Labor Cost per Unit |
| Rate per hr. 50¢—Premium: One-half of Time-Wage Saved | | | | | | | | | |
| 4 | 4 | 0 | 2.00 | 0 | 2.00 | .50 | 4 | 2.00 | .50 |
| 4 | 3 | 1 | 1.50 | .25 | 1.75 | .58$\frac{1}{3}$ | 4 | 1.75 | .43$\frac{3}{4}$ |
| 4 | 2 | 2 | 1.00 | .50 | 1 50 | .75 | 4 | 1.50 | .37$\frac{1}{2}$ |
| 4 | 1 | 3 | .50 | .75 | 1.25 | 1.25 | 4 | 1.25 | .31$\frac{1}{2}$ |
| Rate per hr. 50¢—Premium: One-third of Time-Wage Saved | | | | | | | | | |
| 4 | 4 | 0 | 2.00 | 0 | 2.00 | .50 | 4 | 2.00 | .50 |
| 4 | 3 | 1 | 1.50 | .16$\frac{2}{3}$ | 1.67 | 56 | 4 | 1.67 | .41$\frac{3}{4}$ |
| 4 | 2 | 2 | 1 00 | .33$\frac{1}{3}$ | 1.33 | .67 | 4 | 1.33 | .33$\frac{1}{4}$ |
| 4 | 1 | 3 | .50 | .50 | 1.00 | 1.00 | 4 | 1.00 | .25 |

As will be seen from the figures in Table 1, as the worker gains in efficiency his earnings under the one-half bonus plan may rise, in the illustration chosen, from 50¢ per hour to $1.25 per hour, while at the same time the labor cost to the employer goes down from 50¢ per unit of product to 31$\frac{1}{2}$¢. Under the one-third bonus plan, the earnings of the worker will go up from 50¢ to $1.00 per hour, while the labor cost per unit of product will at the same time go down from 50¢ to 25¢. In other words, under the one-half plan the earnings of the worker per hour would go up 2$\frac{1}{2}$ times, while the labor cost to the employer would go down but a little over one-third; while under the one-third plan the earnings of the worker would double and the labor cost to the employer would be reduced one-half.

*The Rowan Premium Plan* provides for the payment of a regular hourly rate and, in addition, of a bonus equal to the percentage of time saved, multiplied by the wage for the time actually taken to do the work. Under this plan the amount of which the bonus forms a percentage is based not on the time saved, but on the time taken, so that the less time the worker takes to do his job, the less is the bonus in proportion to his efforts. Thus, if the set time is four hours and the rate is 50¢ per hour, and the job is done in three hours, the worker has saved one hour, or 25%. His regular wage would therefore be equal to $1.50 and his bonus to 25% of that amount, or 37½¢.

On the other hand, if the workman did the job in one hour, saving his employer 75% of the time set, his bonus, as will be seen from Table 2, illustrating the working of the plan, would be no greater, that is to say, the same 37½¢. This plan is manifestly unfair to the workman, yet even under this system of bonus payments it will be seen from the table below that it gives the workman a substantial increase of earnings per hour as the labor cost per unit of product is reduced. The employer, however, is benefited to a much larger extent than the employe.

TABLE 2
ILLUSTRATION OF ROWAN'S PREMIUM PLAN

Rate per hr. 50¢. Bonus: Percentage of time saved multiplied by wage for time in which the work was done.

| Hours | | | | Compensation | | | | Labor Cost | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | Actual | Saved | % Hours Saved | Time Wage | Bonus Wage | Total | Total Earnings per Hour | No. of Units Made | Total Labor Cost | Labor Cost per Unit |
| 4 | 4 | 0 | 0% | 2.00 | 0 | 2.00 | .50 | 4 | 2.00 | .50 |
| 4 | 3 | 1 | 25% | 1.50 | .37½ | 1.87½ | .62½ | 4 | 1.87½ | .47 |
| 4 | 2 | 2 | 50% | 1.00 | .50 | 1.50 | .75 | 4 | 1.50 | .37½ |
| 4 | 1 | 3 | 75% | .50 | .37½ | .87½ | .87½ | 4 | .87½ | .22 |

*The Gantt Task and Bonus System.*—This is a modification of the Taylor differential piece-rate system. Under the Taylor plan, the task or number of units which a workman can produce in a given time is determined by careful time study. Two piece-rates are then set for the work: a low rate, if the worker fails to make his task in the prescribed time and a higher rate, if he makes his task in the standard time, or less. Under this system of payment, the worker is stimulated to exert himself to the utmost to earn the higher rate. The incentive to speeding is obvious.

The Gantt plan converts the Taylor differential piece-rate system into a task and bonus system, that is to say, instead of having two piece-rates, there is a basic rate per hour which is all that the worker receives so long as he fails to meet the task; as soon, however, as the worker has made his task in standard time or less, he receives a bonus varying from 20 to 50 per cent, according to the nature of the work and the degree of inducement which is regarded necessary to insure the interest of the worker. Once the worker has achieved his task in a given time, the combined time and bonus rate remains fixed, so that from that point on the compensation becomes virtually a straight piece-rate, the same as under the Taylor system.

In the illustration given in Table 3 it is assumed that the basic rate for the worker is 50¢ per hour, and that the bonus is 50% of the wages earned in standard time. Under this system of payment, if the standard time is four hours, and it takes the worker anything from 5 to 8 hours, he will receive a straight hourly rate of 50¢ per hour. The moment, however, he makes his task, that is to say, as soon as he does the required number of units in 4 hours, he receives in addition to $2.00 for 4 hours' work, a bonus of 50% of that amount, or $1.00, making the total payment equal $3.00. His earnings thus suddenly increase from 50¢ to 75¢ per hour. The achievement of the task thus brings a high reward, but (as in the case of the Taylor system) if the workman has strained himself to the utmost and reduced the time, in which he makes the task, from 8 hours to, say, 4¼ only, he would get no reward whatever, still drawing his 50¢ per hour. In fact, he would be penalized for his extra effort, for instead of receiving $4.00 for the job as he did when it took him 8 hours to do it, he would now get only $2.12 for the same amount of work, done with

## TABLE 9
### ILLUSTRATION OF GANTT'S BONUS PLAN

| Hours | | | Compensation | | | | Labor Cost | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | Actual | Saved (+) or Lost (−) | Time Wage | Bonus | Total | Total Earnings per Hour | No. of Units Made | Total Labor Cost | Labor Cost per Unit |
| A-Rate: 50¢ per hr.—Bonus: (Minimum) 20% of Wage for Standard Time | | | | | | | | | |
| 4 | 8 | −4 | 4.00 | 0 | 4.00 | .50 | 4 | 4.00 | 1.00 |
| 4 | 7 | −3 | 3.50 | 0 | 3.50 | .50 | 4 | 3.50 | .87½ |
| 4 | 6 | −2 | 3.00 | 0 | 3.00 | 50 | 4 | 3.00 | .75 |
| 4 | 5 | −1 | 2.50 | 0 | 2.50 | 50 | 4 | 2.50 | .62½ |
| 4 | 4 | ... | 2.00 | 40 | 2.40 | .60 | 4 | 2.40 | .60 |
| 4 | 3 | +1 | 1.50 | .90 | 2.40 | .80 | 4 | 2.40 | .60 |
| 4 | 2 | +2 | 1.00 | 1.40 | 2.40 | 1.20 | 4 | 2.40 | .60 |
| 4 | 1 | +3 | .50 | 1.90 | 2.40 | 2.40 | 4 | 2.40 | .60 |
| B-Rate: 50¢ per hr.—Bonus: (Maximum) 50% of Wage for Standard Time | | | | | | | | | |
| 4 | 8 | −4 | 4.00 | 0 | 4 00 | .50 | 4 | 4.00 | 1.00 |
| 4 | 7 | −3 | 3 50 | 0 | 3.50 | .50 | 4 | 3.50 | .87½ |
| 4 | 6 | −2 | 3.00 | 0 | 3.00 | 50 | 4 | 3.00 | .75 |
| 4 | 5 | −1 | 2.50 | 0 | 2.50 | .50 | 4 | 2 50 | .62½ |
| 4 | 4 | ... | 2 00 | 1.00 | 3 00 | .75 | 4 | 3.00 | .75 |
| 4 | 3 | +1 | 1.50 | 1 50 | 3.00 | 1.00 | 4 | 3.00 | .75 |
| 4 | 2 | +2 | 1.00 | 2.00 | 3.00 | 1.50 | 4 | 3.00 | .75 |
| 4 | 1 | +3 | .50 | 2.50 | 3.00 | 3.00 | 4 | 3.00 | .75 |

greater exertion. Viewed from this angle, Mr. Gantt's claim that "We have here all the advantages of day work combined with those of piece work, without the disadvantage of either,"[12] is hardly sustained. In the eyes of the worker who had to double his effort to bring his time down from 8 to 4¼ hours, there is no advantage in this system over the straight time system and in so far as the Gantt system has made him hustle and left him with $2.12 for his effort, instead of $4.00 which he would have received had he continued to work at his accustomed easy pace, it looks like a deliberate scheme to hold out a bait which is just beyond his reach, and which benefits the employer exclusively.

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[12] H. L. Gantt, *Work, Wages and Profits* (The Engineering Magazine Co., 1919), p. 165.

From the point of view of labor costs, the Gantt system of payment will prove of great advantage to the employer, for the cost per unit of product (see Table 3) will be reduced from $1.00, if the worker did his task in 8 hours, to 62½¢ if it took him only 5 hours.

As soon as the worker has made his task, his payment becomes fixed. In our illustration it equals to $3.00 for 4 hours. If he should go beyond the standard and gradually reduce his time for the task to three, two or one hour, he would continue to receive $3.00 for the task. In other words,—from the moment he meets the task the payment becomes a straight piece-rate and his earnings per hour mount as he gains in speed, as they do under any piece-rate system.

Turning to the illustration in Table 3: The cost per unit of product when the task is achieved is 75¢. As the workman gains in speed beyond that point his earnings rise rapidly from 75¢ per hour to $3.00 per hour. It must be borne in mind, however, that "the task is based on a detailed investigation by a trained expert of the best methods of doing the work"[13] and that in order to earn bonus the work must not only be done in standard time or better, but must be "up to the standard for quality."[13] Under these conditions, it is very seldom that the worker can beat standard time very materially and, therefore, the earnings above $1.00 per hour as worked out in Table 3, are more in the nature of a mathematical illustration of what the earnings may theoretically rise to, rather than examples of practical reality. There is, therefore, not likely to be much incentive to further speeding after the worker has made his task.

> [As viewed by Mr. Gantt himself, his] system of pay is really a combination of the best features of both day and piece work. The workman is assured his day rate while being taught to perform his task, and as the bonus for its accomplishment is a percentage of the time allowed, the compensation when the task has been performed is a fixed quantity, and is thus really the equivalent of a piece-rate. Our method of payment then is piece work for the skilled, and day work for the unskilled, it being remembered that if there is only work enough for a few, it will always be given to the skilled. This acts as a powerful stimulus

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[13] *Ibid.*, l. c., p. 149.

> to the unskilled, and all who have any ambition try to get into the bonus class. . . . . The day worker who has no ambition to become a bonus worker usually of his own accord seeks work elsewhere, and our working force soon becomes composed of bonus workers, and day workers who are trying to become bonus workers.[14]

Of course it would be impossible to discriminate in such a way between one set of workers and another in a union shop, the union usually insisting that when there is not enough work to keep everybody busy, work must be divided among all as equally as possible. Still, the system would tend ultimately for the best workers to remain at the plant.

*The Emerson Bonus Plan,* in the words of the author of the plan,

> being a later evolution than the plans of Halsey, Rowan, Taylor and Gantt, had the benefit of their experience, owes much to them, but also aimed to avoid any weaknesses in the earlier plans and to add valuable features not hitherto included.[15]

Its main features are summed up by its author under the following 3 heads:

1. Efficiency is determined not for each operation or job, but for a period of time, such as a day, week or month.

2. Efficiency is expressed in the form of a percentage obtained by dividing the aggregate standard time by the aggregate actual time. Thus, if the total number of hours worked in a week is 250 and the worker has delivered 260 hours of standard work, his efficiency is 260 divided by 250, or 104%.

3. The transition from inefficient time pay to standard time and bonus is made not abruptly, as under the Gantt plan, but gradually. Bonus begins when the worker reaches 67% efficiency instead of 100%, as under the Gantt plan. The bonus at 67% is insignificant, being only one hundredth of one per cent of the hourly wages earned. It gradually increases by fractions of one per cent until it equals to 1% at 74% efficiency, 2% at 77% efficiency, 3.3% at 80% efficiency, 10% at 90% efficiency. From that point on, the bonus increases at the rate of 1% for each additional per cent efficiency, so that it equals 20% at 100% efficiency, 25% at 105% efficiency, etc.

In other words, the worker is paid for full standard time, if he does the work in less than standard time, in addition to a bonus of twenty per cent. Thus, if standard time for performing a certain operation is 4 hours (See Table 4), and the hourly rate is 50¢, and the worker has accomplished his task in three hours, showing an efficiency of 133%, his compensation will be as follows:

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[14] *Ibid.*, l. c., p. 165.

[15] Harrington Emerson, *A Comparative Study of Wage and Bonus Plans*, p. 18.

| | |
|---|---|
| 3 hours actual time—3 x 50 . . | $1.50 |
| 1 hour saved from standard time 1 x 50 . . . . . . . . . . . . | 50 |
| Bonus 20%, on 3 hours worked—20% of $1.50 . . | 30 |
| Total . . . . . . . . . . . . . . . . | $2.30 |

or:

| | |
|---|---|
| 3 hours actual time—3 x 50 . | $1.50 |
| Bonus 53%, on 3 hours worked or 53% of $1.50 . . | .80 |
| Total . . . . . . . . . . . . . . | $2.30 |

making the total earnings per hour equal $2.30 divided by 3, or 77¢. This plan has the obvious advantage over the Gantt plan that by avoiding the sudden jump from no bonus when work is less than 100% efficient to a bonus of from 20 to 50 per cent, when 100% efficiency is attained, it does away with the gambling with the worker's energy and ambition and offers him a gradually increasing reward as his efficiency advances from 67% upward. At every stage of improvement beyond 67% efficiency the worker is encouraged and has the satisfaction of increasing his hourly earnings.

As already stated, the Emerson plan provides for increasing efficiency not only on separate jobs, but per day, week or month, while the Gantt and other plans have the job as a basis. This has a tendency to reduce the worker's earnings under the Emerson plan, since it is impossible to maintain as high a rate of efficiency continuously as it is on separate jobs; the figure representing aggregate efficiency is thus reduced, reducing the average hourly earnings. On the other hand, when the worker discovers this, he will realize that overspeeding on individual jobs, causing exhaustion and lowered efficiency on subsequent jobs, brings a lower aggregate income than a more moderate efficiency steadily maintained. This should furnish the best corrective against undue speeding.

From the point of view of labor cost, the Emerson plan is like the Halsey and Rowan in that it provides for a constantly reduced cost per unit of product as the efficiency of the worker and his earnings per hour increase while, under the Gantt plan the cost remains the same after the worker reaches and passes 100% efficiency.

> [As Mr. Emerson says] "An employer can well afford to pay a large bonus; he can well give the total wages saved as bonus and derive his own benefit from the increased output of the plant and the greatly reduced overhead. It is for this reason that for efficiencies above 100% the worker is given as a bonus his hourly rate for all the time he saves in addition to 20% on the wages for the time he works.[16]

In spite of that, the labor cost per unit of product continues to drop under the Emerson plan after the worker has exceeded 100% efficiency. Thus in the illustration in Table 4 at 50% efficiency the labor cost to the employer per unit of product is $1.00; at 66⅔% efficiency the cost drops to 75¢; at 100% efficiency the cost is reduced to 60¢; at 200% efficiency it goes down to 55¢, and so on. At the same time the worker's hourly earnings advance from 50¢ to 52¢, 60¢ and $1.10.

TABLE 4

ILLUSTRATION OF EMERSON'S BONUS PLAN

Rate: 50¢ per hr. Bonus: Commencing with one-hundredth of 1% for 67% efficiency, it rises to 3.3% for 80% efficiency; to 10% for 90% efficiency; and thereafter increases at the rate of 1% for each 1% increase of efficiency, so that it is 20% at 100% efficiency; 25% at 105% efficiency, etc.

| Hours | | | Compensation | | | | | Labor Cost | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bonus | | | | | | |
| Standard | Actual | Percentage of Efficiency | Time Wage | % of Time Wage | Amount | Total Wages | Total Earnings per Hour | Total Labor Cost | No. of Units Produced | Cost per Unit |
| 4 | 8 | 50% | 4.00 | 0 | 0 | 4.00 | .50 | 4.00 | 4 | 1.00 |
| 4 | 7 | 57% | 3.50 | 0 | 0 | 3.50 | .50 | 3 50 | 4 | .87 |
| 4 | 6 | 66⅔% | 3.00 | 0 | 0 | 3.00 | .50 | 3.00 | 4 | .75 |
| 4 | 5 | 80% | 2 50 | 3.3% | 0.08 | 2.58 | .52 | 2.58 | 4 | .65 |
| 4 | 4 | 100% | 2 00 | 20% | 0.40 | 2.40 | .60 | 2.40 | 4 | .60 |
| 4 | 3 | 133% | 1 50 | 53% | 0.80 | 2.30 | .77 | 2.30 | 4 | .58 |
| 4 | 2 | 200% | 1.00 | 120% | 1.20 | 2.20 | 1.10 | 2.20 | 4 | .55 |
| 4 | 1 | 400% | 50 | 320% | 1.60 | 2.10 | 2 10 | 2.10 | 4 | .52 |

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[16] *Ibid*, l. c., p. 19.

## CONCLUSION

Each of the systems of compensation mentioned has its advantages and disadvantages and the adoption of one or the other will depend upon the aim in view.

Whatever the system adopted, assuming that the object is to adopt a system of compensation that will secure efficiency without overspeeding; that will tend to keep down costs, while raising wages; and that will appeal to the sense of fairness of the worker, certain general principles suggest themselves for our guidance:

1. The workman is entitled to a living wage as a minimum compensation for his time and effort which he spends at the plant. Whatever the form of compensation, he must receive a basic wage measured by the time he spends at the plant, at a rate sufficient to yield a living wage.

2. If workers are not to be prejudiced against any system of compensation based on output (whether piece-rate or bonus) they must be paid the basic hourly rate for all idle time spent at the plant through no fault of their own.

3. If workers are paid by the piece, the rates must be so adjusted as to yield the worker a distinctly higher wage (from 20% to 50%) than the minimum wage paid the worker of ordinary speed and skill.

4. Where time and bonus rates are paid, they should be so arranged as not to rob the worker of the fruits of his extra exertion on the one hand, and to discourage excessive speeding on the part of the worker beyond what has been demonstrated as safe by careful time studies; excessive speed being harmful to the health of the worker and to the quality of the product.

5. Brief rest periods in addition to the noon recess, or frequent changes of position in receiving and turning in work, should be provided to avoid undue fatigue and monotony. This will safeguard the health of the workers and in the end result in increased output.

6. Under no circumstances should piece or bonus rates be cut on the ground that the earnings of the workers are too high so long as there is no change in the operation or in the manufacturing process.

7. If the opposition of workers to new machinery, or improved labor-saving methods, due to fear of losing the job, is to be over-

come, employes made superfluous must never be discharged. Ordinarily, the growth of the business, the natural labor turnover, and the possibility of transfers to other departments, will take care of the superfluous workers. If these should fail to materialize as rapidly as may seem desirable, it will be cheaper in the long run to employ the workers on their jobs on part time, paying full time wages, than to show indifference to the employe's fate by "firing" him unceremoniously.

8. The worker should share in the benefits resulting from the introduction of improved machinery and increased efficiency. Whether this share should take the form of higher wages, shorter hours, or a share in the general profits, or in the specific savings resulting from the improvements, is a subject so large as to require separate treatment.

# The Foreman

By Hollis Godfrey, Sc.D.

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MUCH has been done in the way of engineering surveys of industrial plants. Some of the methods employed were good; others were bad. All good and bad alike failed to take into consideration the human problem. They dealt only with machines and material. It has been well said that every labor law and labor organization is a monument to somebody's blunder, somebody's lack of foresight, somebody's faulty sense of justice.

Any plan that does not link men with machines fails and it fails because back of the power must always be the mind. Nothing will do more in this period to aid in the development of both prosperity and capacity than to give to the craftsman the training required by a non-commissioned officer of industry and to train non-commissioned officers of industry for further advancement. "The squad is no better than its corporal," said a great general. We may paraphrase this remark by saying, "A group of workers is no better than its foreman." The foreman is primarily a community officer of an industrial community. He is the route man who makes the routes by which the goods travel and he is the public works department that keeps the shop clean. He is the teacher who teaches the citizen of his part of the community how to live and work effectively in that community. He is the public servant who, if he rightly performs his function is not concerned with controversies between employer and employe, being detached from both. In a properly organized plant his work involves no differences of opinion. He organizes men and material. He is essentially the sub-engineer who, because of his position, may inaugurate any change which an industrial survey shows necessary. The foreman is the one man to whom is necessarily entrusted the actual production of the goods and the actual training of the workers in his section. He must carry out the orders of the engineer or the planning department. He must understand those orders and know how to put them into effect. Therefore, the development of one of our last remaining resources—skill, involves the training of the foreman or non-commissioned officer of industry. He must be fitted for the two essential tasks of every foreman—production engineering in which he acts as a sub-engineer and the training of the workers under him, which is essentially vocational teaching. What is set forth here involves no new material, but is based on the studies of the past.

The inauguration of a plan for bringing about profitable action through the use of capitalized experience involves two operations. First, collection of the best experience within a given plant obtained by an engineering survey. Second, combining the best experience within the plant with the best outside the plant and putting it into teachable form for use in the school for foremen. The first step in the development of the field of the plant is to visualize the processes inside the plant, with orders coming to the foreman, his transmission of those orders to the workmen, the bringing in of raw materials, its passage through the process of the departments and, finally, the getting out of the finished product. There are three great groups of experience that concern the foreman—the functions of men, what they do; the function of material, raw materials which pass through the machines and come out as a finished product; and, lastly, the function of the money which pays for the raw material and the process and thereby makes possible the profit from the product. All these are governed by the transmission of experience. Experience furnishes a chart by which the three are assembled to make goods and subsequently money, because it is the order given upon the basis of experience which causes all three to function.

With the collection, analysis and synthesis of the best experience within and without the plant, combined and capitalized, the next step of transmission to the worker through the foremen logically follows. The plan which I propose is to develop the foreman in such a way that he may become the agent of the management in any reorganization development and yet be a friend and counsellor of the worker. We should develop this asset of capitalized experience, in order to give the foreman the tool by which he may do his work, or, to use an analogy, the key by which he can unlock the door to the golden treasury of experience. For one hundred years our engineering colleges have been developing skill through the work of the engineer and giving the engineer the training of the ordinary engineer and the sub-engineer or the foreman. The engineer must be able to design, instruct and supervise. The foreman does not have to design or does not have to know outside practice, but he must be able in the shortest and most effective way to carry on the broad design. It should also be made possible for him so to add to his knowledge that in time he may take the "sub" from his title. It is, therefore, necessary to set forth specifically what must be done to enable the non-commissioned officer of industry to become first a productive engineer and second, a vocational teacher. First, he must have records of the experience of the plant where he works, coördinated for his use. Second, he must have them so expressed that he can transfer orders based on the experience to the worker. Third, he must have the plan so analyzed that he can get balanced production—that assembly of material which will come together at the right time and in the shortest time. All these things are a part of necessary engineering knowledge. Unless they are furnished him in a form as simple and as direct in comparison to the needs of his group as is an engineering handbook to the needs of the engineer, the foreman will not be able to carry out his function. The foreman's work is primarily that of the shop and his experience must comprise a practical, personal knowledge of the four walls in which he studies, of the machines which he sees, and of the men with whom he works. Even if he has all these things, there are three other things which he must have in order to train his men. He must have the experience which he is to use expressed in terms of the worker, so that he can train any worker no matter what his language or power of understanding may be. He must be able to take the experience which he requires and transmit it in the shortest possible time using the swiftest means of attack upon the problem confronting him. Last and by no means least, he must collect the new valuable experience which results from any action, and turn it back to the engineer of design to aid him in new plans and in new methods of control.

How can these six things be given to the foreman who is the worker and who is working even in this hour in darkness and without a thorough knowledge on his part of the great scheme of production or how to transmit that which he does know to the worker? It can be done in the same way that the knowledge which was needed by the engineer was collected and given to him; the only difference being, that the experience which the foreman must have is that of the specific plant. The experience which is now on scraps of paper, in operation orders, inspection orders and other records of that nature, subject to loss by death or misplacement, must be brought together, analyzed and synthesized. The best must be extracted from the whole and the unprofitable material discarded. It must be so expressed that the foreman himself can use it, and use it within narrow limits of time and space. It must be balanced so that the experience which comes from one group will not clog production and so that no experience which is used in any way can cause loss of time, energy or money. The only way by which this can effectively be done is by having a trained engineer handle it, make a complete engineering survey of the plant, analyze the material which the foreman must use, combine it with the best outside experience, record it in simple terms which can be understood and balance it by known methods of scientific analysis and synthesis. With the completion of the first function of the engineer analyst the school may be begun, for it will have then been determined just what the non-commissioned officer of industry should know about his plant and what he should know of general subjects.

The next task is the organization and operation of the school for non-commissioned officers and "leading hands." It is in the teaching—difficult as this is—that some progress has been made, but there are almost no factories where any of the wonderful unused teaching powers of the foreman have been developed. To develop these, we must take advantage of the advances in education, which have been as swift during the war as the advances in engineering analysis. Today, we can use in peace, the same methods by which in war we trained hundreds of thousands of men for the army, navy and supporting industries. We can use the swift methods of expression, of transmission and of collection which we learned in war. In order to put such a plan as this into effect, it becomes necessary to take a single plant, analyze it, and express it in terms which a non-commissioned officer can use and understand. To do this one addition is necessary to any plant. There must be established an Experience Division with a teaching room for the foremen, which gives to them the charts of their course as they give the blue-print and tool-list to the workmen. As I write this

I sit on the deck of a coastwise steamer which has been run on the shoals off Cape Cod. It seems to me this instance serves as a very good analogy. The captain of the ship as well as the foreman must have experience. However, he cannot depend upon his own experience alone. He must have charts, bouys and lighthouses which are the product of experience of others. Furthermore, he must be taught how to use that experience effectively. The captain in this case, recently out of a training school, had the experience material before him, but had not been taught how to use it in the best way. The result was a loss of time, energy and money. When the Experience Division and teaching room are added you have the man who uses the tool and you have the tool itself which is the use of capitalized experience. You have the means by which the man is to get the tool—an Experience Division, charged with the function of carrying out the best knowledge, derived from each group of war-time industries.

There are no special difficulties in the introduction of such a plan. I may say here, that I have talked to many labor leaders about this question of education of the foreman and I have never found any leader or foreman who made the slightest objection to it. There are no objections because there is not a selfish element in it. It is the one plan which makes the interest of capital and labor one. It is the one link which is needed to fill that existing gap in an industry so that we may all serve to a maximum degree, the nation, our associates and ourselves. It is a primer lesson in citizenship.

What are the results? First, it gives the plant managers a basis on which to act in their development in any plant reorganization. Second, it makes every foreman an intelligent assistant manager and sub-engineer. He is enlightened. He no longer looks upon his one department as his world, but he has gained a broad knowledge of business. His versatility as well as his breadth has been increased. Heretofore, all changes in a plant were the arousing signal for suspicion and controversy. By enlightening the foreman we have the entering wedge by which new methods may easily be introduced. We have established a link between employer and employe. In his new place and with his new interest the foreman is stimulated and in turn stimulates and arouses the interest of the worker.

# The Manager's Part

By D. M. Bates

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THE old idea of the position of manager of an industrial plant was that of a job—a big job to be sure, the biggest job which that particular plant offered, but nevertheless a job and one to be held against all comers. The present idea of management, taken in its broadest and best sense, would suggest thinking of it as a calling or profession rather than as a job. Certain it is that the manager of a plant of average size has in his work the opportunity to contribute toward the happiness and uplift of many people as much as does the average clergyman, to advance the physical welfare of these people more than can the average physician, and to serve them with good counsel, advice and leadership more intimately and effectively than could the average lawyer. And the best thought of all is that work and money expenditure toward the accomplishment of such service and of such a relationship are entirely along the lines of good business, the measurement of which in industry must always be determined by the question of a final profit in dollars and cents as the result, either direct or indirect, of every financial outlay.

It is not suggested that the manager can in any way take the place of the priest, the physician, or the lawyer. He should primarily be a specialist thoroughly versed in the technique of his particular line of production. But it is essential, and is becoming more so every day, that he be a man of foresight and of broad views and sympathies, who will realize and keep in touch with and justly measure the many human forces constantly bearing and reacting upon his work.

The human contacts of the manager in relation to his work are many. Starting with the plant itself, representing invested property, are the owners. The superintendents and foremen, and the employes or "help" naturally suggest themselves and are his chief and his daily associates. The community in which the plant is located; the customers comprising the markets or trade supplied; the competitors representing the industry; all mean most important human contacts, directly or indirectly, for the manager. These, with the manager himself, viewed subjectively, make seven different groupings which will serve as an outline.

## OWNERS

The owner, representing the capital of the undertaking, may be near the plant as a resident in the community, or far away from it as in the case of many stockholders. Ownership may be represented by one or by many persons. The ideal condition in the past has been approached most often where the owner and manager were one, which meant of course active daily touch with the work and with the workers. The advantages of such a condition are evident, and, given an owner-manager of broad views and sympathies, a proper understanding of the human problems is almost assured. Except in industries where consolidation has not gone far, however, ownership, or capital, is often represented by a host of people. Under present conditions many, perhaps all of these, are totally unknown to the business as a going concern, or at least quite unacquainted with it. If things progress as indicated by developments of recent years, the gulf of absenteeism in ownership which in itself is undesirable, may to a large extent be bridged by a remarkable increase in the number of small owners, or worker-capitalists. This already is under way on a large scale in such great aggregations as the United States Steel Corporation. The evolution in effect is doing away with the individual proprietor at the plant, and is gradually building up collective personal ownership among the workers at the plant. It is going from the condition where a single capitalist, as manager, was also a worker, to the condition where all, or at least many workers, become small capitalists. It is bringing ownership which has gotten away from the plant, back to the plant through another channel. It is the sane answer to bolshevism. But it means that during these great transition years of complete or partial absenteeism the manager, who is the connecting link between the old order and the new, should above all things be a great big human being to carry out the part entrusted to him by the inevitable progress of events.

Everything should be done that the manager can do to give the owners, through their directorate, a complete up-to-date picture of the plant at all times and under all conditions. This should reflect the human relationship throughout the work no less than the physical condition of the property. The manager's attitude toward the owners, or their directors, should be absolutely frank and open, and should in return develop an attitude of complete confidence and support. The relationship is entirely one of interdependence and demands sure foundations. If, for example, certain policies are being pursued to the detriment of harmony, *esprit de corps*, or reasonable contentment among the workers, or if dividends are being voted at the sacrifice of a proper reserve for depreciation, the manager should fearlessly make this clear and feel sure of an understanding audience. But this is not enough. Being the owner-representative at the plant he should reflect to his directorate as far as possible all that would interest and stimulate the owner-manager of the old order in the prosecution and development of his daily business. Getting the impetus at first hand, he must by his enthusiasm and imagination impart it to those who have the power but lack the contact, and from them he must receive not only support but such sympathy and appreciation of a situation as will make itself felt through him among the workers individually.

This brings up the other side of this relationship—that of the help to the owners. An immense amount of friction and misunderstanding can be avoided by bringing the owners close to the help through the personality of the manager. While the latter should always conduct the business so as to show complete power and authority to deal with all matters of immediate concern, he should at the same time make the people in the plant feel, subconsciously perhaps, that the directors and owners of the company have a real personal interest in everything that transpires.

## SUPERINTENDENTS AND FOREMEN

Any man can be led if the leadership is good, but many cannot be driven. Superintendents and foremen are readily susceptible to leadership, a thing right in line with their own jobs. Each one of them should be treated as a man with a future, and encouraged to expand and develop himself as much as possible. Indeed this feeling should pervade every worker in the plant. It is not an original thought, but one well worth adopting, that any superintendent or foreman who grows too big for his job shall have the assistance of the management in taking the next step ahead even if it means going to another company. The old idea was to cling to a man or to jockey him into such a position that he could not leave without serious loss of time or money or prestige. The new idea is to boost him even if it entails the personal loss of his services. The gain in good-will and *esprit de corps* is so great by the boosting plan that it much more than offsets the loss of an individual through extraordinary development and promotion. Good raw material naturally comes to a plant where the future of each individual is a matter of live interest to the management.

Much has been written of the personal relation between the manager and his lieutenants. Sarcasm is always taboo and any faults or criticism of a personal nature are of course dealt with in private, everything being done to build up each man's self-respect and proper confidence in himself. This last can be greatly encouraged by readiness to hear respectfully any honest suggestion from a subordinate and to place credit for initiative or for original ideas exactly where it belongs. A manager who is ready to go to others for expert advice or assistance, who on occasion is not afraid of saying, "I'm wrong" or "It's my mistake," who avoids cultivating an attitude of "know it all" or an atmosphere of infallibility, will greatly promote the growth of his men and their confidence in him. No one is fooled by the opposite posture, but it results in making everyone else shut up like a clam and abandon all real coöperation. A manager should be very careful to stifle any feeling of jealousy as to giving due credit to his rising young assistants; otherwise he is apt to drive a good man prematurely out of the company's employ, or seriously to stunt his growth. The wonderful success of Andrew Carnegie in developing big men about him and growing bigger along with them is the thing to keep in mind. As far as the manager's attitude in this personal relationship is concerned, it must be approachable, frank, friendly and helpful, being suggestive rather than critical and stirring up constructive imagination towards the future rather than dwelling destructively on postmortems of work done. Sufficient discipline naturally comes from business-like insistence on things being done methodically and punctually, all of which follows right along with modern planning and lay-out of the work.

But of all things in the successful building and up-keep of a satisfactory and efficient organization, the principal one is to give the man in responsible charge of a department or of a piece of work sufficient lee-way or independence to enable him to grow. Minor mistakes through such a method are inevitable, but how well worth while they are, when it is seen that the alternative, the continuous close personal attention of the manager to every sort of detail, not only robs the superintendents and foremen of their growth but also ties down their chief to intensive routine and destroys his opportunity of real leadership. This point cannot be too strongly emphasized. Good material, properly trained, will know when to seek aid or advice. Beyond affording regular opportunities for this, for example, through a brief conference each morning, and laying out general lines of policy—principles to be followed, and results to be sought—the manager should hesitate to go. On the other hand, through previous experience and training, he should be a master of detail in his chosen line of work, and able to coöperate intelligently and helpfully in any investigation or experiment along technical lines. But above all the manager should have the great part of his time freed from routine for imaginative leadership, and this can only be when he lets others really share his work and his responsibility.

## EMPLOYES

The relationship with the employes at large is similar in its interdependence, demanding mutual respect and confidence, but is one of attitude on the part of the manager rather than of frequent contacts. If the manager's attitude is one that inspires trust and confidence of fair dealing it means that the surest foundation for success has been laid. The greatest asset of the United States is said to be the trust which its given word inspires. In a similar way in his own small world the word of the manager should inspire trust; so that whatever the decision may be, the employes can absolutely count upon it. In introducing such work as task and bonus, or premium piece-work of any sort, this confidence is vital. The greatest difficulty in this sort of development is the fear of the operative that after he has succeeded in accomplishing the task or work as planned and is regularly earning the bonus or increased wage, he will have his bonus rate cut down and be left worse off than at the start with little net increase in wages and a high production record to live up to. It is the duty of the manager by his attitude in such matters to instil confidence in the employes that the company will not permit any such unfairness, and that, for example, no change in task and bonus, once set, will be made without a change in machinery or methods which renders such readjustment fair to both sides.

Undoubtedly the greatest source of all wealth in manufacturing is the ability to secure the good-will of the work-people in their work. This can be done by no short-cut to popularity, by no stage-play nor four-flushing; nor can it be by playing favorites, by making molly-coddles of the workers, or by self-conscious paternalism in welfare work. Good-will in unstinted measure—and that is what you want—is possible only through the proper attitude of the company toward the workers, which means of the management or the manager toward them. In fact, as the manager is often the only contact point of the company with the employes at the plant, the attitude of the company may well originate and develop from the attitude of their manager, particularly in those plants of moderate size with a comparatively inactive directorate and no chairman of the board as in the United States Steel Corporation. This attitude must necessarily be honest, as already noted, but it must be much more than that to reach the great sources of good-will. It must be eminently fair and just; it must lead to a study of the problems of existence through production from the workers' standpoint; it must, as so practical and able a man as Judge Gary himself has stated, be guided by the principles of the Golden Rule. It must be founded on the hypothesis that whatever is to continue to exist in the new world of today, and this would include even such old established customs as the right of private property, will do so because it is best for the people as a whole and not for any particular part or group of them. The time has about arrived, as Charles Dickens phrased it, "when men and women seem by one consent to open their shut-up hearts freely, and to think of people below them as if they really were fellow-passengers to the grave, and not another race of creatures bound on other journeys."

Able management, whether it works along the lines of so-called Taylor or Scientific Management, or along other lines, must from the material point of view have as its goal the saving of needless effort or labor, and the reclaiming of waste material. But, assuming this to have been perfectly accomplished, the source of all effort, of all initiative, the human being, remains broadly speaking still untouched. Aside from the threat of bolshevism, which originated in a bitter feeling of injustice over the lot of the human race, particularly the Russian race, in connection with its share of life and happiness for the average man today, able management must and is taking note of the human being as a potential source of energy far beyond anything yet realized. Able management is grasping the fact that the means of getting this energy into action are not the knout, the lash, hard words, black looks, or heartless neglect. The meanest man in the street, like the smallest nation, is calling for his place in the sun and he is going to get it. But he will not get it by force and threats such as those in power formerly used against him. He will get it by mutual understanding, and this is where able management steps in. The possibilities of saving in industry in a material way are enormous. The power to realize these savings and then to quadruple them through the vastly increased human energy flowing from the sources of good-will, rests on fair dealing—great, big, broad, fair dealing knowing no contrary precedent, brooking no time-worn hindrance. This fair dealing must wipe out the old demon of human greed, realizing for the struggle that it is to the selfish interest of all concerned to settle this torment once for all. Once this thought is grasped that fair dealing, generous treatment can feed selfish money lust more than stark selfishness itself, everything works toward equilibrium.

Master minds of national repute in industry are already grappling in a practical way with this question, considering it the keystone of the problem. It has been suggested by such men that after living wages and a reasonable minimum return on capital are paid, the balance be divided equally between labor and capital. A sinking fund or "depreciation reserve for profits" would help average good and bad business years and might answer the query as to how labor was to meet its share of the losses in bad times. Whatever the fair proportion may be, able management knows that it cannot begin to realize these great savings, these vast additions of energy, unless it sets out with this aim of fair dealing in plain sight as its goal. Once this start is made, the plant thus favored will gain momentum as it advances along the right road. With the workers, health, hope, prosperity, happiness, mutual respect both given and received, contentment and absence of fear for the old, ambition and emulation for the young, all come from that great, big, broad, fair dealing which able management and the able manager set as their goal; all are fuel for that vastly increased human energy which flows from the sources of good-will.

### COMMUNITY

The community can both gain and give much, spiritually as well as materially, through touch with a plant located in its midst. This touch or coöperation is one of the chief concerns of a far-sighted manager. It deals with vital things such, for the worker, as water supply, sanitation, housing, fire-risk, education, recreation; for the town or city, population, livelihood, growth, prosperity. Countless manufacturing towns throughout the country are dependent for their very existence on the sustained business success of the plants within their borders, while these same plants are equally dependent for success in their present locations upon finding there satisfactory conditions of living for their operatives and of transportation for their supplies and products. The manufacturing interests through their operatives furnish for such a city the *raison d'être* of the shops, stores and all other enterprise dependent on retail trade, and also supply directly a large proportion of the taxes for running and developing the city itself. In return the local merchants and business men should provide attractive and satisfactory stocks of goods, wholesome food-stuffs, and first-class amusements, while the city should give its industrial population clean streets, well regulated traffic, modern building laws, ample police and fire protection, sufficient parks and good schools.

In schools, for example, a special opportunity for beneficial coöperation is found, good schools attracting a desirable class of people to a town and later turning out the children of these same people with good educations, well prepared to enter on careers of industry or business to the mutual benefit of themselves and their employers. Trade schools and night schools, fostered by forward-looking industry in coöperation with intelligent city governments to supplement the regular grammar and high school education, present just one of many fields for wonderful team-work between the plant manager and his community. Every health-building effort for the people of a city, everything done to better the conditions surrounding the care and up-bringing of children is just so much solid gain to any manufacturing district. Many plants through their personnel superintendents and their industrial nurses have gone so far with health and welfare work among their employes that their example is a real source of inspiration to their city. From a business point of view alone coöperation of the manager with the city in all such work is most desirable. But with this sort of work, both within and without the plant, it is indispensable that every effort, every expenditure of time, every outlay of money for the benefit of the help be made as a business proposition, because it pays, and never with any idea of charity or paternalism.

In the case of absentee ownership the manager must again be the connecting link, in this instance between the owners and the community. The financial backing represented by plant ownership is needed in many communities to help support work such as Y. M. C. A. and kindred activities, a wide-awake chamber of commerce, efforts for better city government, in fact everything which tends to make the locality a better place to live in. But even with the manager's interest enlisted in such coöperation, the difficulty of replacing the local benefit from resident ownership in industry is very great. Instances can readily be cited of two cities, A and B, lying opposite each other on the same river, with everything the same, climate, healthful location, available water power, transportation facilities, quality of the people, everything except ownership of industry, A having resident ownership, B absentee. Both cities may be enterprising and prosperous, but in almost every instance of this kind, A with its large property owners on the spot will lead in getting more return for its taxes and in showing a more progressive spirit; it will have better government, better schools, cleaner streets, and will be the first to start new movements for public welfare or business expansion. The man owning industrial property in A knows exactly what is being done with his taxes from day to day; if the streets are poor and the traffic congested, he bumps along and is held up in his automobile; if the fire-risk is bad, he pays for it personally in the insurance on his home; if the schools are poor, he wonders where he is going to educate his children. But the absentee owning industrial property in B has none of these personal contacts with inconvenience and if his dividends are diminished by over-taxation or a difficult labor market, he realizes but dimly the cause.

### CUSTOMERS

Though remote from the plant the customers comprising its markets form a contact that is very real. This relationship is susceptible of great influence for better or worse through the manager, who can build up a great reputation for his plant and product by the simple means of frankness and fair dealing, of courtesy, of care, of interest in the special requirements of each customer, of readiness to have his organization take all those pains in little things which collectively represent what is known as service in modern business. Reciprocally he can help a whole lot the people in the plant working on the orders of these customers, by interpreting to them in their own familiar language the various instructions and criticisms which the customers send in. Some customers are captious, some over-critical, some, while meaning to be fair in their criticisms, do not know how to express them properly. It is most desirable that every manager of a plant know his customers personally as far as possible, and so knowing them and understanding their personality, he can intelligently gauge and interpret their instructions and criticisms to his organization. There is a remarkable psychology which pervades a working force in regard to the particular customer whose work they may be handling. It is a striking fact that customers who take fair views, who are not unreasonably critical, and who are not afraid to pass back to the plant a friendly good word when work is done well, create a feeling of pleasure and satisfaction among the people engaged upon their work, and this feeling reacts favorably toward the successful accomplishment of the work; while on the other hand, incessant, rasping, unfair criticism results in making the help nervous and affects the work unfavorably. Where work is done on orders for particular customers it thus acquires a sort of personality with the work-people, and the touch of the manager in transmitting through his organization the wishes and criticisms of each client should be such in each case as to make the "personality" of the work as agreeable as possible to the workers.

Beyond this and very important is the helpfulness of having as many as possible of the executive staff of a plant know one's customers personally. A trip through the market for each one at least two or three times a year is the way to do this. Personal acquaintance, understanding and friendship on either side make up a strong mental background for what before was only an endless flow of letters or orders. Too often a customer has no understanding of the difficulties and risks of manufacturing, while an executive at the plant thinks of the customer as a fussy or unreasonable person to please whom is impossible. Face to face each realizes the other is human; the customer grasps the idea of conditions not always possible to control; the plant executive sees that the mill's customer has in turn his customer—be it some further manufacturer or the general public—who must be satisfied or appeased. Where the nature of a business is such that a company manufactures and markets its product direct through a large selling force covering a wide area, for example the entire country, the ends above outlined are largely achieved by gathering the selling force together at the plant, say every six months just before the opening of a season, and having manufacturing and selling heads spend a week in conferences, formal and informal. This is current practice in many places and the results are immeasurably beneficial. The principle, however, is in all cases the same: bring those who manufacture a product into the closest possible touch with the final users of that product.

### COMPETITORS

Lastly, in the list of contacts as we are taking them up, but of prime importance, are the manager's dealings with his competitors. Much less than a generation ago each piece of knowledge a foreman in a mill possessed was regarded by him as his own private property. If he divulged it to the management he felt his hold on his job was just that much less secure. Examples of this in the textile industry come freely to the writer's mind. A boss dyer, before the advent of the great development of German dyes, was very close about recording his old wood-dye formulas. If he happened to be sick, or on vacation, or if he quit his job, so much the worse for the plant for the time being—he was not looking ahead for himself or for his plant. A foreman carder in a cotton mill had a remarkable mixture of oils for treating the leather on the rolls of his draw-frames. Nothing under heaven could persuade him to divulge this recipe. The relation of plant to plant in competition in the same industry has been, and to a large extent still is, in the same condition as that of these foremen in clinging to their past knowledge. While it is not suggested that one's special trade secrets should be trumpeted from the house-tops to one's bitterest competitor, it is a fact that a certain attitude of mind begets certain results. Useful knowledge cannot be locked up in a chest and kept for any time from the use of men, without some one happening along and picking the lock. The man who is always worrying about guarding his work and methods from others will not have room in his mind for big constructive thought looking to future development and betterment. Every good thing brought out in industry is going to have imitation and in most cases successful imitation. So after all the chief benefit in singularity or individuality of ideas and methods is to be a leader in these, to be a year or two, or even six months, ahead of the crowd; not only not to follow, but to be far from content simply to be "on the band wagon" as they say in politics; one must be far ahead of the "band wagon" or average knowledge and practice, to get the real benefits we are contending for.

Now what, you are asking, has all this to do with the relation of a manager to his competitors and to other plants? Just this. No one has a monopoly of good ideas, and it is only by exchanging ideas through contacts with one's competitors that a manager can truly grow. This applies just as much to the other plant's manager as to yourself. Even without giving out any special formulas or peculiar trade secrets, without even showing certain machines of unusual design or accomplishment, one man can visit the plant of another in the same industry with very great profit to both. It matters not whether the visit is made or is received.

I cannot remember any visitor to our plant from a competing plant, and all are welcome, who by his questions has not stirred up some new line of thought which has led to helpful action of one kind or another. This, of course, would seem the lesser of the opportunities for benefit. In visiting another's plant a host of new ideas is gathered, not necessarily of one specific method or process, but of doing a score of things which you are doing, but in an entirely different way, of tackling a problem from a new standpoint, of accomplishing the same result with less toil or under healthier conditions for the workers. As in the case of one's customers, closer acquaintance with competitors also causes everyday vexations to disappear. The futility of pirating help is quickly realized and practices of this kind which bring no lasting advantage, but only ill will, fall naturally into disuse. The broadening effect of exchanging plant visits is remarkable, the results are mutually advantageous, the benefit is great to the industry as a whole, particularly in view of the new era of world competition on which we are entering.

Again in matters of markets such as costs and prices, a great amount of good is gained by frank and open dealings with one's competitors, good not only for one another but for one's customers, for the trade at large. Should the plant manager also have to do with the selling policy of the business he will find that free comparisons with competitors of costs for a given operation or product, legitimate publishing of prices that have been quoted on standard lines of work, all make for stable market conditions benefiting both buyer and seller.

Plants, even industries, are like individuals. Some are broad-minded, receptive of new ideas, progressive, energetic. Others are narrow in outlook, suspicious of all change; they are clinging to the past, waiting to be pushed. Let no one think that by an open-minded attitude he will so reform his industry that there will be no laggards left to set the average market price above his costs. There is more, a million times more to gain by industrial reciprocity than by isolation and stagnation; and the steppingstone to reciprocity is the broad-minded attitude of the management, and first of all, of the manager.

## CONCLUSION

The manager himself then is the focal point of all these various contacts of plant relationships. Under the old conditions he was often a victim, ground between the upper and nether millstones, capital and labor, his employers and his help. The new view, speaking somewhat in the language of the army, would rather regard him as a thoroughly efficient *liaison* officer promoting understanding, coöperation and harmony. Instead of being broken down or in a rut, he should be full of contagious enthusiasm, ready for leadership, carving out new lines of progress. But assuming him to be a man of integrity, force of character, brains and energy, what is the most important characteristic of his work? Unquestionably his attitude. It is his compass according to which he will steer toward the east, the coming day, the new vision, the broadening opportunity; or toward the west, the setting sun, the days that are past, the closed mind. He must keep in touch with things in a large way. What is going on in England, for example, in the work of the Joint Industrial Councils and their share, at least in an advisory capacity, in governmental problems of reconstruction and adjustment will be of live interest to him. So far has this development gone that it is even suggested (by Sir John Pilter, honorary president of the British Chamber of Commerce at Paris) that joint commissions of employers and employes "visit the principal producing centres in their trade in other countries and there see at first hand the conditions with which they must coöperate or compete and study any advantage or improvement which might well be carried home. The scheme is based on the doubtless sound notion that, broadly speaking, labor has little if any knowledge of the main currents of industry, and that if employers were to share their knowledge of competitive markets with their employes, there would be a clearer understanding on the part of labor of the problems for whose solution 'capital' is responsible." A moment's thought of the vast possibilities contained in this outlook and of the rapidly changing conditions of the new world of today cannot fail to stimulate the imagination and to challenge real ability.

# Labor Agreements with a Powerful Union

By Hon. Jacob M. Moses[1]
Lawyer, Baltimore, Md.

THE Amalgamated Clothing Workers of America are not affiliated with the American Federation of Labor. The organization came into being in the autumn of 1914, when a large number of the tailors and cutters in a body left the United Garment Workers of America (affiliated with the A. F. of L.) and subsequently united with the Tailors' Industrial Union (formerly known as Journeymen Tailors' Union) under the name of The Amalgamated Clothing Workers of America. Its first convention was held in the City of New York, December 26th to 28th, 1914. This fact is mentioned because in the brief period of its existence it has become the dominant labor organization in the men's and boys' clothing industry in America. It has a membership of over 100,000 and it has agreements governing industrial relations between its members and the most important clothing manufacturers of the country. The new organization from its inception was distinguished by an enthusiasm, a morale and an idealism which are quite remarkable and it has developed a type of leadership which has attracted wide attention both within and outside of the labor movement. The report of the general officers at the first convention emphasized the need of education as an indispensable element of success in achieving the aims of the organization. I quote from said report as follows:

> An organization of labor, to be true to its mission, to be able to elevate the workingmen mentally, materially, morally and in every other sense, while gathering strength for the ultimate emancipation of the working class from the wage system, *must be predicated on education.* An economic labor organization built on the solid foundation of knowledge and enlightenment will never be in fear of destruction, will be able to withstand any storm, and the workingmen will find in it shelter and protection. A workingman brought into the Union . . . . by the ennobling influence of education will not have to be urged in season and out of season to remain in the Union. The Union will always live in his own soul and he will always be found in the organized ranks with his fellows. The

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[1] Judge Moses acts as impartial chairman in the two Baltimore shops having agreements with the Amalgamated and referred to in this article. [Editor.]

> workingman must be informed on the cause of the existence of Unions, on their true missions, which are not confined to the walking delegate's duties to attend to complaints brought from shops. We need a new type of organizer, a new type of, what is ordinarily termed, labor leader. Let us open the gates of our organization to educators and they will come. . . . . One of the most effective means of education is undoubtedly the press. . . . . We hope that this convention will provide means for a press of our own so that we may do our work in the most effective manner.

The organization at present publishes six weekly and bi-weekly newspapers in the following languages: English,[1] Yiddish, Italian, Polish, Bohemian and Lithuanian.

The preamble to its constitution reads as follows:

> The economic organization of labor has been called into existence by the capitalist system of production, under which the division between the ruling class and the ruled class is based upon the ownership of the means of production. The class owning those means is the one that is ruling, the class that possesses nothing but its labor power, which is always on the market as a commodity, is the one that is being ruled.
>
> A constant and unceasing struggle is being waged between these two classes.
>
> In this struggle the economic organization of labor, the union, is a natural weapon of offense and defense in the hands of the working class.
>
> But in order to be efficient, and effectively serve its purpose, the union must in its structure correspond to the prevailing system of the organization of industry.
>
> Modern industrial methods are very rapidly wiping out the old craft demarcations, and the resultant conditions dictate the organization of labor along industrial lines.
>
> The history of the class struggle in this country for the past two decades amply testifies to the ineffectiveness of the form, methods and spirit of craft unionism. It also shows how dearly the working class has paid for its failure to keep apace with industrial development.
>
> The working class must accept the principles of industrial unionism or it is doomed to impotence.
>
> The same forces that have been making for industrial unionism are likewise making for a closer inter-industrial alliance of the working class.
>
> This inevitable process will eventually lead to a universal working class organization, united along the entire line of the class struggle, economically and politically, instead of being split up and divided against itself, as it unfortunately is at present, under the antiquated teachings and methods.
>
> For the consummation of this great end the education of the working class is most essential. This must, therefore, be a very important part of the mission of the labor movement.
>
> Every oppressed class in history achieved its emancipation only upon its

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[1] *Advance*, published at 31 Union Square, New York City.

attaining economic supremacy. The same law operates also in the struggle between capital and labor.

The industrial and inter-industrial organization built upon the solid rock of clear knowledge and class consciousness will put the organized working class in actual control of the system of production, and the working class will then be ready to take possession of it.

## AGREEMENTS WITH EMPLOYERS

As above stated the Amalgamated has entered into agreements with the principal manufacturers of clothing and it is the purpose of this article to tell something about these agreements and how they work in actual practice in two clothing plants in the City of Baltimore.[3]

The agreements with the various employers are practically the same and the more important provisions in the cases referred to are as follows:

(A) The hours of work shall be 44 per week consisting of five days of 8 hours each and a Saturday half holiday.

(B) Overtime shall be dispensed with so far as possible. When overtime is necessary the worker shall be paid at the rate of time and a half.

(C) Requests for wage increases shall be taken up in the first instance by the shop chairman elected by the workers and the duly appointed representatives of the employer. In case of disagreement the matter shall be referred to the Trade Board, hereinafter provided. The Trade Board shall investigate and shall have power to render a decision.

(D) The Trade Board shall be composed of eight[4] representatives elected by the workers (members of the Union) and a like number of representatives appointed by the employer, and an Impartial Chairman chosen by mutual agreement of both parties. The Trade Board has jurisdiction over all complaints and grievances which may arise in the shops and which may be referred to it for decision by either side. An appeal from any decision of the Trade Board may be taken to the Board of Arbitration, hereinafter provided.

(E) The Board of Arbitration shall be composed of three members, one representing the employer, one representing the workers and the third chosen by mutual agreement to act as Chairman.[5] All decisions rendered by the Board of Arbitration shall be final and binding upon both parties.

(F) All work shall be given to the inside shops. If, however, the workers are unable to meet the demands of output or are unable to insure prompt deliveries through increase of business, the employer shall have the right to place extra work in outside shops in order that undue injury, through the cancellation of orders, may be prevented. It is understood, however, that the representatives or agents of the employer having charge of the giving out of such work shall give preference to outside shops whose workers are members of the Amalgamated Clothing Workers of America. It is further understood that if without undue delay all such work cannot be placed in such shops, the employer shall have the right to place such work wherever it can be most satisfactorily and speedily handled.

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[3] Henry Sonneborn & Company, Inc., employing about 3000 workers, and Strouse & Bros. Inc., employing about 1000.

[4] The number differs in the various factories.

[5] President Frank J. Goodnow of Johns Hopkins University is Chairman of the Board of Arbitration under the agreements with Henry Sonneborn & Co. Inc. and Strouse & Bros. Inc.

(G) All new workers are on probation for three weeks[6] and if not satisfactory may be discharged at any time during the probationary period.

(H) Changes in methods of production, as well as changes of persons from one operation or department to another, may be made by the employer, provided the individual worker does not suffer because of such change. In every case the shop chairman shall be notified before the change is made.

(I) All persons employed directly in the manufacture of clothing in the cutting, trimming and tailoring departments of the employer, shall be members of the Amalgamated Clothing Workers of America in good standing.[7]

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[6] This period varies in the different agreements.

[7] The Sonneborn and Strouse labor agreements provide for the closed shop. Hart, Schaffner & Marx of Chicago was the first clothing manufacturer to make a labor agreement with the Amalgamated. This agreement has been renewed from time to time and is still in force. It provides for the "preferential shop" in the following terms: "It is agreed that the principle of the preferential shop shall prevail, to be applied in the following manner:

"Preference shall be applied in hiring and discharge. Whenever the employer needs additional workers, he shall first make application to the union, specifying the number and kind of workers needed. The union shall be given a reasonable time to supply the specified help, and if it is unable, or for any reason fails to furnish the required people, the employer shall be at liberty to secure them in the open market as best he can.

"In like manner, the principle of preference shall be applied in case of discharge. Should it at any time become necessary to reduce the force in conformity with the provisions of this agreement the first ones to be dismissed shall be those who are not members of the union in good and regular standing.

"The provisions for preference made herein require that the door of the union be kept open for the reception of non-union workers. Initiation fee and dues must be maintained at a reasonable rate, and any applicant must be admitted who is not an offender against the union and who is eligible for membership under its rules. Provided, that if any rules be passed that impose an unreasonable hardship, or that operate to bar desirable persons, the matter may be brought before the Trade Board or Board of Arbitration for such remedy as it may deem advisable."

In May, 1919, a large number of clothing manufacturers in Chicago made

(J) It is understood that the power of discipline and discharge shall remain with the corporation and its agents. It is agreed, however, that at the request of the shop chairman the employee ***shall*** remain at work until the Trade Board reviews the case.[8]

(K) Whenever a worker shall have absented himself from his accustomed place without giving an acceptable reason to the representative of the employer in charge of his work, upon the second business day of his absence, his position may be considered forfeited. In case of absence, a reason therefor must be given to the foreman (or other representative of the employer) by messenger, mail or telephone. Any worker who is absent on account of sickness shall be re-instated in his former position if proper notification is given the foreman and shop chairman within three days, provided he returns to work within a reasonable time.

(L) Standards are to be established by a committee composed of an equal number of representatives of the workers and the employer and if they cannot agree the matter shall be referred to the Trade Board, whose decision shall be final.[9]

## SHOP ORGANIZATION

The workers organize each shop (such as coat-shop, pants-shop, vest-shop, etc.) by electing a shop chairman and two or more assistants, who together constitute the shop committee. The shop chairman then appoints a worker in each section or group (such as pocket-makers, sleeve-sewers, basters, etc.) to represent his or her section, the principal function of such representative being to bring to the shop chairman any complaint, grievance or demand that may originate in the particular section. The shop

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agreements with the Amalgamated providing for the preferential shop. The full text of these agreements was published in the *Daily News Record* (New York, May 16, 1919) and may be obtained by writing to the general office of the Amalgamated, 31 Union Square, New York City.

[8] Until recently this clause read as follows: "It is understood that the full power of discipline and discharge remains with the corporation and its agents, but it is agreed that this power shall be exercised with justice and with due regard for the reasonable rights of the employee. If the employee feels as if he has been unjustly discharged, he may appeal to the Trade Board, which shall have the power to review and decide such cases. In every case the shop chairman shall be notified before actual discharge. By request of the shop chairman, the discharge *should* be delayed until the Trade Board hears the case."

[9] In the Sonneborn plant most of the workers are week workers with wages based upon a "standard" production. In the Strouse plant most of the workers are piece workers and the agreement provides for a wage board, presided over by the chairman of the Trade Board, to handle requests for increases.

chairman and his assistants are elected for six months and the section representatives serve for a like period, but the workers of the shop may at any time by a majority vote depose the shop chairman or his assistants or appointees.

## HEAD CHAIRMAN OR CHIEF DEPUTY

The head chairman or chief deputy of the workers of the entire factory (combined shops) is elected by a general shop committee made up of all the shop chairmen and their assistants (shop committees) and his election must be ratified at a general meeting of the workers of the entire factory. He is elected for six months, but may be deposed at any time by a majority vote of the workers at a general meeting. Such action may be taken upon the recommendation of the general shop committee or otherwise. His duties are to preside at all general meetings of the combined shop committees and of the workers of the factory. If the shop chairman and his assistants (shop committee) cannot adjust any matter in dispute between the workers and the representatives of the employer in any particular shop, the head chairman is called in to adjust same. If he cannot reach an adjustment with the representatives of the employer, the matter is then taken to the Trade Board for settlement. It is estimated that about ninety per cent of the cases are adjusted without reference to the Trade Board.

Before any request for a change of conditions affecting a section or group can be presented to the employer, such change must be sanctioned by the general shop committee composed of all the shop chairmen and their assistants.

## THE TRADE BOARD

As provided in the agreement the workers and the employer each have an equal number of representatives upon the Trade Board. Each important section or group of workers elects one of their number to represent them upon the board for a definite period, usually six months, but such representative may be recalled at any time by a majority vote of the group. A woman worker is elected by the women workers of the entire factory to represent them, so that there is always at least one woman on the board. An "Impartial Chairman" is chosen by mutual agreement, when the contract between the employer and the union is entered into, to serve during the term of the agreement. He presides at all meetings of the Trade Board and has power to decide all questions over which the Trade Board has jurisdiction. His decisions are generally subject to an appeal to the Board of Arbitration, although appeals are rare.[10]

## HOW THE PLAN WORKS

When a worker or a group of workers in the shop has a grievance, or desires an increase in wages, the worker representing such group presents the matter to the shop chairman, who takes it up for adjustment with the shop superintendent or other designated representative of the employer and if they are unable to adjust the matter in a satisfactory manner it is referred to the Trade Board for decision. Where the employer has a labor manager the shop chairman takes the matter up with him for adjustment instead of with the shop superintendent. One of the employers referred to has recently engaged a labor manager[11] and the number of cases which have been referred to the Trade Board has greatly decreased. This is especially true with regard to the cases involving discipline and discharge, which because of their vital importance to the workers and their influence upon the morale of the shop must be briefly referred to.

## DISCIPLINE AND DISCHARGE

Before the advent of the labor manager, foremen or shop superintendents frequently sought to discipline or discharge a worker with what appeared to be undue haste. Almost invariably in such cases the entire group, often the whole shop, became agitated if an apparent injustice was done to the worker. As above stated, under the earlier agreements the worker could be discharged *before* hearing by the Trade Board, but could apply for a review of his case and re-instatement by said board. This procedure proved unsatisfactory because the workers felt that it was unjust to deprive a man of his job before giving him a chance to defend himself and their dissatisfaction frequently manifested itself in diminished production, lack of discipline and in other ways. Even after re-instatement of the worker with back pay the apparent injustice which he had suffered was not forgotten by him and members of his group and the employer paid the penalty in the end. It therefore became necessary, both in the interest of the worker as well as of the employer, to change the procedure in order that the worker might have the right to have his case heard by the Trade Board before he could be discharged.[12] The maintenance of shop discipline and morale requires a prompt disposition of these cases and they are heard by the Trade Board without delay.

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[10] Under the Sonneborn agreement, since January, 1916, to date, only one appeal has been taken and that was withdrawn before hearing. Under the Strouse agreement, since May, 1917, no appeals have ever been taken. In the two plants the Trade Board has held over 300 sessions and more than that number of cases have been decided.

There are rarely any stoppages. When they do occur it is usually because the workers are required to work at a new operation for an unreasonable length of time before the new piece rate is fixed. No stoppages have occurred because of adverse Trade Board decisions.

[11] Dr. Clyde L. King (in the Sonneborn plant).

One of the most frequent complaints made by the employer is that the worker is inefficient or turns out "bad work." In one of the plants referred to, when such a complaint is lodged with the shop chairman by the employer's representative the shop chairman goes at once to the worker and admonishes him that he must do the work properly and the foreman shows the worker what is expected of him. If the worker continues to produce bad work, the shop chairman warns him that if he is brought before the Trade Board upon that charge, he will not be defended by the workers' representatives and may be discharged. This plan has worked very successfully and very few cases have come before the Trade Board. The union does not defend bad work, but the representatives of the workers on the Trade Board insist that before a worker may be discharged for bad work he should be instructed how the employer desires the work to be done and he should receive due warning before his case is referred to the Trade Board, in order to give him a chance to improve. Occasionally it is found that a worker can do better work on a different operation, and in such cases, whenever possible, he is transferred.

[12] See appendix to this article, page 176.

## CHANGES IN METHODS OF PRODUCTION

Before the agreements were made with the union the employers found it next to impossible to improve their methods of production and the installation of new systems was almost out of the question. The workers resisted changes which involved learning a new operation or a loss in wages. After all, when a man has been making pockets in a certain way for ten years and has acquired great skill and speed and a fair earning capacity, he can hardly be expected to submit tamely to a radical change in method which practically nullifies his accomplishment and relegates him to the ranks of the learner or the unskilled worker. Therefore, every important change usually involved a stoppage of work and the employer considered himself fortunate if he could secure a slight concession. This situation is dealt with in the agreement (clause H) which provides that changes in methods of production, as well as changes of workers from one operation or department to another, may be made by the employer, provided the individual worker does not suffer because of such change. Of course, the shop chairman must be notified before such change is made, so that he may explain the matter to the worker or group and assure them that they will not be permitted to suffer through the change. This means, especially, that the workers will not receive less wages under the changed conditions. This clause of the agreement has been construed by the Trade Board to permit the introduction of new machinery, new systems of handling and routing the work, new methods of production, the keeping of records by the workers and, within the last few months, the taking of time-studies for the purpose of establishing piece rates and standards of production. Obviously, this is a tremendous gain, and although, at times, such innovations have met with vigorous protest from the rank and file, yet the leaders of the union, all things considered, have displayed a spirit of coöperation and a degree of intelligence and comprehension of modern business methods truly remarkable.

## A NEW TYPE OF LEADERSHIP

Those who are familiar with the development of the clothing industry must be deeply impressed with the tremendous changes which have taken place since the Amalgamated became a powerful organization. Its strength and the character of its leaders are a guarantee that its agreements will be carried out by both workers and employers. It has the power to compel respectful consideration of its demands. It was the first labor union to secure the 44 hour week for the entire industry in which its members are employed. Its insistence upon collective bargaining and a representative form of government in the shop is establishing law and order in an industry which heretofore has been notoriously chaotic. A striking example of this fact is presented by the clothing industry in New York City. Prior to February of this year the conditions were most deplorable. About 150 manufacturers employing some 10,000 workers in inside shops and over 1200 contractors employing about 40,000 people were in a constant state of ferment. Guerrilla warfare, stoppages, strikes and lockouts were matters of almost daily occurrence. Sometimes the manufacturers and contractors combined to fight the union; more frequently the contractors sought the union as their natural ally. Bitterness, recrimination, demoralization—no other terms will serve to describe the situation. The workers had uncontrolled power in the shop and the shop chairman abused that power whenever it served his purpose. It was a situation which called for statesmanship, courage and exceptional leadership. All these are possessed in a remarkable degree by Sidney Hillman, the general president of the union. His tact, ingenuity and foresight brought order out of chaos. He frankly admitted the abuse of power by the petty union officials in the shops, but he also showed that the methods of the boss were mainly responsible for the conditions which threatened the industry with destruction. He proposed a labor agreement under which collective bargaining and industrial relations would be established between the union and the entire local industry, and this has now been practically accomplished. The Rochester and Chicago markets have followed with similar agreements under which the union can deal with the industry as a whole and in July representatives of the clothing manufacturers of New York, Rochester, Chicago and Baltimore met in New York and established the National Industrial Federation of Clothing Manufacturers. Its Articles of Federation state that

> The Board of Governors shall have authority to bind the participating manufacturers to any agreement with the Amalgamated Clothing Workers of America and to make rules and regulations governing the industrial relations between

management and workers. It shall be responsible for establishing an industrial government with all necessary organization of administrative, judicial and legislative functions to stabilize wages, hours, standards of efficiency and all conditions of employment.

The next move must now come from the union and its action is awaited with much interest.

## APPENDIX

The question as to the right of the worker to have his case heard by the Trade Board before he could be discharged was carefully considered and fully discussed in a report made by a committee consisting of Mr. James Mullenbach, Impartial Chairman of the Trade Board under the Hart, Schaffner and Marx agreement, Dr. N. I. Stone, now labor manager for The Hickey-Freeman Co and Jacob M. Moses, chairman, to Dr. William Z. Ripley, Louis Marshall, Esq. and Prof. Felix Frankfurter, acting as an advisory board to consider controversies between the American Men's and Boys' Clothing Manufacturers Association of New York and the Amalgamated Clothing Workers of America, in February, 1919. This report has not been published and because of the difficulty in securing a copy of same, that portion will be quoted which bears upon the subject under consideration (page 172)—*Discipline and Discharge.*

"As a result of the long strife for control in the shops the manufacturers admit that they have lost the power of discipline and discharge, except at the cost of prolonged lockouts and stoppages.

"This condition, it is recognized, is unsatisfactory to both parties, means destruction of their real interests, and some method of orderly procedure in cases of discharge is essential.

"The manufacturers contend that the only effective system of discharge will be one where the employer shall have the right of immediate discharge of a workman, but that such discharge shall be followed by a review by the Impartial Chairman who may confirm the discharge, or overrule it by reinstating the workman with or without back pay according to his judgment. The employers cite the experience of the Hart, Schaffner and Marx Labor Agreement in this respect as confirming their contention.

"The Union contends that an adequate system of discharge will be one where the employer may order the discharge, but the discharge shall not become effective, that is, the discharged workers need not leave the shops, except by consent of the shop chairman, and until the Impartial Chairman shall review the causes of the discharge. The workers cite the experience of the Sonneborn Labor Agreement in confirmation of their contention.

"The Hart, Schaffner and Marx provision for discharge and the practice thereunder is as follows:

" 'The full power of discharge and discipline remains with the company and its agents,—but it is understood that this power should be exercised with justice and with due regard to the reasonable rights of the employe, and, if an employe feels that he has been unjustly discharged, he may appeal to the Trade Board, which shall have power to review the case.

" 'Every person suspended shall receive a written notice, directing him to appear at the office of the company for a decision—every suspension notice properly presented to the discipline officer of the company must be disposed of within six working hours from the time of its presentation and a definite decision announced to the suspended person.'

"Under the provision of the agreement for discipline the practice at present is as follows:

"All exercise of discipline or discharge has been withdrawn from the shop managers or superintendents and foremen, and is vested in the director of labor who investigates and passes first on all charges against a workman before an order for discharge is given. His function in this respect is a judicial one. According to the discipline officer of the company,—'in cases of discharge the burden of proof is upon the employer to show that such discharge is necessary for the welfare of the organization. He must also show that any alternative action involving less hardship on the individual is inadequate.'

"When, however, the discharge is advised by the discipline officer the discharge is immediately taken up by the deputy of the workers and, if no adjustment with the company can be made, the discharge becomes an emergency case and is heard immediately by the Trade Board.

"There are two exceptions to this method of procedure.

"Cutters who fall off in their production may not be disciplined, i. e., reduced in wages, suspended or discharged, before there has been a hearing before the Trade Board. Cutters are week workers.

"In the case of deputies of the Union and Trade Board members, no discipline can be imposed until charges are filed and heard before the Trade Board.

"By practice also Shop Chairmen are not disciplined until charges are filed and reviewed before the Trade Board.

"The system at Hart, Schaffner and Marx has worked well largely because of the following factors:

"When the agreement was first made the company held the power of discipline and the agreement was designed to define and limit the exercise of the power; further, the disciplinary function is centered in one official—the director of labor—who determines the policy of the company as to discipline and discharge and so maintains consistent aims and practices in the exercise of his functions; and further, the promptitude with which the discharge cases are heard and disposed of.

"The provision in the Sonneborn Labor Agreement dealing with discharge is as follows:

" 'It is understood that the power of discipline and discharge shall remain with the corporation and its agents. It is agreed, however, that at the request of the Shop Chairman the employee shall remain at work until the Trade Board reviews the case.'

"The practice under the Sonneborn agreement was originally like that of the Hart, Schaffner and Marx Agreement. The clause in the earlier agreement reads as follows:

" 'It is understood that the full power of discipline and discharge remains with the corporation and its agents, but it is agreed that this power shall be exercised with justice and with due regard for the reasonable rights of the employee. If the employee feels as if he has been unjustly discharged, he may appeal to the Trade Board, which shall have the power to review and decide such cases. In every case the Shop Chairman shall be notified before actual discharge. By request of the Shop Chairman, the discharge should be delayed until the Trade Board hears the case.'

"Because this request of the shop chairman on account of the use of the word '*should*' was not held to be mandatory, the company insisted that the discharged man should leave the shop forthwith. This action, however, always awakened the resentment of the people in the shop and caused a falling off in production, and even when the man was reinstated with back pay the summary action of dismissal still rankled.

"On account of this evil effect the original practice was abandoned and no discharge involving immediate withdrawal from the shop took place except by agreement of the Shop Chairman. This practice being recognized as conserving the interests of both parties, the agreement was changed to read as at present, giving the Shop Chairman authority to prevent the withdrawal from the shop until the case has been heard by the Trade Board.

"It is clear that the administration of the two systems is not so widely different, and it is purely a question as to which is best adapted to meet the needs of the New York situation.

"As pointed out above, the outcome of the struggle between the employers and the workers finds the employers bereft of the power of discipline. For years the workers apparently had been able to veto any disciplinary action of the employer, and a guerrilla warfare has been waged.

"Any system of orderly procedure will take power from the workers or at least confine the exercise of it within prescribed limits. Under these circumstances we believe it is altogether advisable to inaugurate the procedure under the Sonneborn Labor Agreement—

"1. Because it is adequate, and

"2. Because it will secure the co-operation of the workers in the endeavor to secure orderly procedure.

"(a) The system of review before final discharge has proved effective and satisfactory for the Sonneborn Co. in the operation of their shops employing over 3000 and for Strouse & Bros. employing about 1200 workers. It has been in practice for some three years and a new agreement confirming this practice has just been concluded. Prompt action from an authoritative source, the Impartial Chairman, before any action is taken disturbing the relations in the shop, will train both parties to habits of responsibility in cases of discharge. Shop Chairmen will acquire a new status and a new accountability, and this will result in moderation and independence in dealing with cases of discharge in the shop.

"(b) Any system of discipline to be effective must finally commend itself to the workers and secure their sanction and co-operation. The discharge after review gives them all the protection they can properly expect and will give to the employer some guarantee of discipline, such as he does not in the present circumstances possess.

"We do not believe the procedure under the Hart, Schaffner and Marx Labor Agreement would be a workable one in the present situation for two reasons.

"1. The large number of employers—each with his own ideas of discipline—makes any consistent policy of discharge impossible. Under the Sonneborn procedure the standards and policy as to discipline will be determined at the outset by the Impartial Chairman.

"2. The large number of establishments separated by considerable distances makes prompt hearing and action very difficult, certainly without the possibilities of speedy action such as is a part of the Hart, Schaffner and Marx procedure."

# The Newer Industrial Relationship Between Employer and Worker

By David A. Brown

President, General Necessities Corporation, Detroit, Mich.

IS the Industrial World a Smoldering Fire?

This question has been smashed into my consciousness by the repeated hammer blows of the daily press, the weekly and monthly magazines, the screeching of the radical, the pleading of the social-minded, the threats of the workers and the pussy-footing of the employer.

To those who can see with their eyes closed comes the recurring picture of bursting flames carried by the prejudices, the sympathies, the ideals, the hatreds and injustices from town to town, state to state, country to country. Here and there in the midst of this chaos stands a "fireman" in a feeble attempt to put out his individual "fire," succeeding partially, but always endangered from the flying embers of his neighbor's conflagration.

Men of industry talk in whispers and there is a look of fear in their eyes as though they were sitting on the rim of an erupting volcano. From everywhere comes the cry of unrest, shouted from the housetops by the ranter, discussed academically by the learned professor, written of profusely by the theorist.

Capital says the question of unrest *should* be solved. Labor says the conditions that make for unrest *must* be solved. And all of this discussion is being piled mountain high, a smoldering fire, now bursting out into flame, now being controlled and at all times a veritable volcano, ready to spit its devastating, destroying lava over the earth. Go where you will, no matter where your destination or what your object, the subject of discussion eventually turns to the present day problem of capital and labor.

All types of men and women are giving serious thought to hundreds of minor differences that make up the major problems.

Captains of industry are meeting through trades, by localities, through Boards and Chambers of Commerce and have thrown their best resources in an attempt at a solution. National and international organizations have called together the great men of this age for the purpose of spot-lighting the subject so that the world might learn of every movement forward.

Socially-minded men, men who are giving their lives unselfishly so that the world will be a better and a finer world for the fit and unfit, men who because they have no selfish interest in the controversy, are recognized as the "Neutral" in this great battle for human rights and social justice, are giving the very best they have in them in an attempt to bring the warring forces of industry to a realization of the obligations and responsibilities of each for the other.

Workers of every group, from common laborer to skilled mechanic, from the man in overalls to the highly paid executive, are thinking and talking in terms of a Fairer Day, a day when their voice will be heard in industry whether the service they render be one purely of brawn or of brain. Public officials of the cities, state and country have lent themselves freely in an attempt to prevent injustice from being done. Committees of every nature have reported and are still reporting, while sufficient legislation has been suggested to solve all the problems in the world.

Every movement forward that the world has taken has been pregnant in the minds and souls of people for years, yes ages, and the labor pains of each birth have been long, excruciatingly painful and exhausting, bringing with them death, sorrow, hatred, love and happiness. And so from all of this great expenditure of thought, energy, time and money must come some definite, concrete, satisfying result; though it be over the bruised maimed bodies of thousands of experiments, the loss of great sums of money, and the tearing down of present day conditions and so-called rights of men.

Have we started? Is there on the horizon of industry any evidence of a rising sun, the "Dawn of a New Day"? In Canada they are asking why capital and labor cannot be partners. In the early months of this year a commission was appointed, two of whom represented the public, two representing the employers and two representing the employes. In their report, they suggest that all changes should be made step by step, each step being based on experience as it is gained, but the general direction should be determined toward *health, happiness* and the prosperity of the workers.

The commission approved of the labor declaration in the Peace Treaty that "Labor should not be regarded as merely a commodity or as an article of commerce." If this basic principle, the report continues, was freely and frankly acknowledged by employers and acted on in good faith, it would go far to improve their relations with employes. The commission comments on the several proposals for Joint Councils:

> The essential feature of all the proposals is that the human factor in industry is to be regarded as of first importance. They aim at improving the standard of comfort of the worker, by securing a greater measure of close co-operation between himself and his employer; of eliminating distrust and suspicion by full discussion of all the facts and circumstances pertaining to the industry. They tend to bring the employe and the employer closer together, and give each a better understanding of the difficulties which beset the other; give the worker a greater sense of responsibility by giving him a greater voice in the government of the industry, and thus bring about a permanent improvement in their relations.

The commission believes a beginning should be made with joint plant councils and more extensive organizations of district and national councils evolved therefrom as necessity arises. It suggests the following as suitable subjects to be dealt with by the council:

> (1) Wage rates; (2) hours of labor; (3) plant conditions, such as safety, ventilation, light, sanitation, provision for meals, dressing rooms, shelter, etc.; (4) child and woman labor; (5) questions of discipline and conduct, as between management and work people; (6) conditions surrounding the worker outside the plant, such as education, amusement, recreation, health, housing, apprenticeship or special training, libraries, etc.; (7) improvement in the plant, or process to improve quality, increase production, decrease waste, etc., and rewards to those who suggest such improvements.

The following suggestions were made by the commission:

Legislation for a maximum day of eight hours.
Minimum wages, especially for girls, women, and unskilled labor.
Government action to relieve unemployment, through the building of public works.
Establishment of bureaus to promote industrial councils composed of employers and workers.
An immediate inquiry by experts concerning a system of proportional representation in parliamentary election.
State insurance against unemployment, sickness, invalidity, and old age.
Collective bargaining, with a recognition of unions by capital.
An opportunity for the poorest worker's child to reach the highest educational institutions.

That if the Dominion government has not power to legislate as proposed by the commission, a conference of premiers and other representatives of provincial governments, together with representatives of labor men and employers, be called to Ottawa at the earliest opportunity, that unanimity may be reached on these points, and to unify present provincial and Dominion legislation, bearing on the relations between employers and employes.

Evidently the Canadian government has had its ear close to mother earth and its eye on the actions of its citizens, for they are dealing with the whole question of labor and capital in the light of present day developments.

And again from an entirely different source is laid down a reconstruction program. At the Conference of American Rabbis held in Chicago, the following declaration of principles was adopted:

> The next few decades will have as their chief concern the rectification of social and economic evils. The world will busy itself not only with the establishment of political, but also with the achievement of industrial democracy through social justice. The ideal of social justice has always been an integral part of Judaism. It is in accordance with tradition, therefore, that the Central Conference of American Rabbis submits this declaration of principles as a programme for the attainment of which the followers of our faith should strive.
>
> 1. A more equitable distribution of the profits of industry.
> 2. A minimum wage which will insure for all workers a fair standard of living.
> 3. The legal enactment of an eight hour day as a maximum for all industrial workers.
> 4. A compulsory one-day-of-rest-in-seven for all industrial workers.
> 5. Regulation of industrial conditions to give all workers a safe and sanitary working environment, with particular reference to the special needs of women.
> 6. Abolition of child labor and raising the standard of age wherever the legal age limit is lower than is consistent with moral and physical health.
> 7. Adequate compensation for industrial accidents and occupational diseases.
> 8. Legislative provision for universal workmen's health insurance and careful study of social insurance methods for meeting the contingencies of unemployment and old age.
> 9. An adequate, permanent national system of public employment bureaus to make possible the proper distribution of the labor forces of America.
> 10. Recognition of the right of labor to organize and bargain collectively.
> 11. The application of the principles of mediation, conciliation, and arbitration to industrial disputes.
> 12. Proper housing for working people secured through government regulation when necessary.
> 13. The preservation and integrity of the home by a system of mothers' pensions.
> 14. Constructive care of dependents, defectives and criminals with the aim of restoring them to normal life wherever possible.

The tongue of the industrial world was put into action when the speech of John D. Rockefeller, Jr. before the Chamber of Commerce of United States at their Atlantic City Convention, was made public. For a man so conspicuous as he to announce his belief in a newer relationship between capital and labor, a relationship that gave to the worker his say in the conditions under which he should work, was to invite the attention of every employer and every worker to the fact that the great industrial movement forward had been started.

The International Harvester Company's announcement of its new internal relationship with its working forces made those who had just begun to sense what was happening, "sit up and take notice." Not that these several plans or the hundreds of other plans that have been put forward are in themselves a complete solution, but they evidence clearly that we are on our way and that the world does move.

The employer of today who stands unaffected while the whole panorama of newer relationships and Working Conditions pass by, will soon find himself a most lonesome individual. The attempt on the part of any industry, or group of industries to make a deal with the worker in which he gives one in return for two will pay the penalty for having driven a bad bargain.

These newer working conditions must come, for thinking men both in the ranks of capital and labor are demanding that their interest shall be closer, that there must be more harmony and less strife.

Of the many ideas put forward to be incorporated into the *Ideal Plan,* most of them are of the merest detail and lack fundamental quality. Labor asks: What about?

Wages
Working conditions
Hours of labor
Safety
Settling of grievances
Collective agreements
Unemployment
Discharge
Rest periods, etc.

And capital asks: What about?

Safety of investment
Satisfactory return on investment
Absolute control of investment
Complete control of business.

Both capital and labor are entitled to a fair answer to these questions.

On the part of labor most of their problems can be solved by what should be termed Industrial Representation. Industrial Representation may be of a very limited nature or may be broad enough to lead right into the Director's Room. No matter how far reaching—whether it be a representation of the workers for the workers, or whether it be a representation of the workers on the Board of Directors, or both—the ultimate result will benefit all concerned.

That labor should be a factor in formulating standards for itself and the conditions under which it shall work is being recognized more and more every day. Who is better fitted to pass intelligent judgment on the important questions of labor than labor itself? The assumption of capital that labor would render selfish judgment is not backed up by the facts nor is it a reasonable conclusion, for we have passed bravely beyond the day when the goose that lays the golden egg is carelessly slaughtered. Labor, once it knows the truth and the limitations under which a particular industry is working, will be guided accordingly and if mistakes occur they will be no greater than those made by capital. It is time that labor took on some of the responsibilities of industry, but before labor can assume responsibility, it must be given responsibility clothed with authority.

There are so many kinds of Industrial Representation, so many interpretations of how they should be selected that it would be difficult to discuss any one plan. But in all cases, regardless of how they are to function, their selection should be on the most democratic plan. The representatives must represent labor, without a string or a limitation. And if it is deemed necessary to balance labor representation by company representation let it be in the open, so that all will know with what stick they are smeared. If we are to have Industrial Democracy, let us have it pure and unadulterated. The man or organization that attempts to fool labor, to "put something over" on it, is only fooled in return. Labor can sense insincerity at a great distance and resents it as an insult to its intelligence.

All of the vital questions that labor asks can be thrown into the crucible of Industrial Representation without fear on the part of capital that any great advantage will be taken or any great injustice done. Capital always has recourse should any action taken be vital to its industry, and it should always be possible to reverse any judgment of this nature. There is no mystery in business. It is easily understood by the worker, for it is the worker who really conducts business, and questions of production costs, sales and overhead costs fall off the tongue of the average man with the same ease as a simple problem in arithmetic.

As for capital, the sooner it realizes its absolute dependence on labor and forms some sort of a partnership with it, the sooner will its investment be safe, its returns satisfactory. Control of investment and control of business can be left safely in the hands of the workers. The day of capital control of business is about to pass and in its place is to come employe control, employe management.

Large organizations whose directors hold their offices only because of their investment and not because of their particular fitness to pass intelligent judgment on the problems placed before them, are gradually beginning to realize that this sort of management is not conducive of the best interests of the organization. The day is not far distant when most boards of directors or properly named, boards of managers, will be composed almost entirely of those closely associated with the direct management of the business. Stockholder directorship must give way to worker directorship, just as large close corporations must open the doors of their stock subscription to their working organization. This has been done in so many cases with such satisfactory results that it is no longer an experiment but an acknowledged success.

In the last analysis who is most vitally interested in the success of an organization, the man who is dependent on the permanency of his position and the possibility it offers for advancement, or the person whose only interest is the amount of dividends that can be secured on his investment? Does it sound reasonable to suppose that a board of directors composed of workers from every department of a corporation will be any more apt to make mistakes or act for their purely selfish interests than a board of stockholders who lack knowledge of the business and whose connection to the organization is a strictly financial one?

One of the great problems confronting industry today is to create interest in the work each individual is doing. Is there any one thing that will create more interest in a man's work than the knowledge that he is part and parcel of the organization he works for no matter how small his interest, no matter how far removed his representation?

Just wages for a job is not enough. There must be more than wages to satisfy the worker today. Paying wages never bought more than a man's brawn or brain activities.

Paying more than wages secures more than the value of either or both. It puts into action that something within every man that does things for the love of doing them. It speeds up the fingers. It makes more accurate the movements. It makes the brain think bigger and better thoughts. It turns what was formerly plain work, just a job, into a position.

Paying more than wages makes the workman like his work, takes the frown out of the natural grouch, makes the careless careful, saves time and creates happiness. Paying more than wages is an obligation, a duty that the employer owes every man who joins his organization, from the very lowest paid to the highest priced individual on the pay roll.

Another of the great problems of business is the horrible turnover of labor. And why not under the present system? A wage scale is just a wage scale and a job is a job. If this labor turnover is to be brought to a minimum, the worker must have some particular attachment, some other interest than his mere pay check in the organization he labors for.

We are entering into a period when the leaders in industry are not entirely satisfied with just a money return. There must be something more offered them than the opportunity of mere accumulation. The business that is just a "money maker" is not attracting the highest type of executive.

No man today prides himself on the fact that he has accumulated a lot of money. Visitors to our great institutions are shown the fine grounds surrounding the plant, the excellent lighting both natural and artificial, the clean factory floors, the sanitary arrangements, the rest rooms, the First Aid hospital, the dining rooms and the safety devices for the prevention of accidents. They are told about the company's welfare plan, possibly their bonus system or their profit-sharing plan. The institution may be one of the great dividend paying organizations, but not one word is said about that. The company is prouder of the service it is rendering to its working organization or to the public than it is of its financial success.

There was a time when riches were counted in material things; the man with the most dollars was the richest man. Success also was counted in terms of dollars, and to be successful one had to have the powers of great money accumulation. This day is rapidly passing, for mere money means little, only as it spells itself out in service to humanity. The man who spends his life in piling dollars upon dollars will have to answer to a public educated to ask the most pertinent questions. And God help the man who cannot answer these questions to the satisfaction of the people.

In the days to come this attitude toward wealth will do much to bring about a better relationship between labor and capital. Captains of industry of the newer kind will go more than half way to meet the on-coming changed conditions.

# The Philadelphia Rapid Transit Plan

By John J. Kerr Caskie
Assistant to the President, Philadelphia Rapid Transit Co., Philadelphia

IN writing this article I have used literally some of the expressions of Miss Helen Marot and Dr. Charles W. Eliot, who have crystallized the thought in a way I could not improve. Mr. T. E. Mitten has been a constant inspiration to me in adjustments with wage workers. When I, as an examiner for the National War Labor Board, first met him, he was deep in his practical coöperative work with the public of the city of Philadelphia during the influenza epidemic. His remarkable effort to stop that dreadful scourge was surely the most effective local agency. His successful safety coöperative work with the school children and the general public of Philadelphia has also been an inspiration.

## I

The Philadelphia Rapid Transit Company was organized in 1902, with a fully paid capital of $30,000,000, to lease and operate the properties of fifty-two underlying traction companies.

In 1910, as a result of a series of disastrous strikes, accompanied by riot, arson and murder, the company found itself with obsolete cars and car service, earnings insufficient to pay fixed charges and operating costs, and with credit exhausted.

At the urgent request of the holders of the securities and of the city government, although he has never had any substantial financial interest in the enterprise, Mr. E. T. Stotesbury undertook the rehabilitation of this public utility as a public duty. He assumed his thankless task without any thought of compensation, and engaged Mr. T. E. Mitten, who was then president of the Chicago City Railway, to represent him in the active management.

The Stotesbury-Mitten management promised to meet the needs of the car riders, increase the wages of the employes, and to pay to the holders of the securities such return as could be made possible by technical expertness and genuine coöperation with the wage workers.

At the time of Mr. Mitten's coming to Philadelphia, there was a bitter dispute between two factions of the Amalgamated Association of Street and Electric Railway Employes, which led to the suspension of the entire Philadelphia local from the international union. There were resultant disturbances among the trainmen, with collisions, assaults, and other serious disregard of the safety of the public and the property of the company.

Accidents had increased to an alarming extent, caused by unfit equipment and the general unrest of the wage workers who, after experiencing the two serious strikes of 1909 and 1910, were, in a dissatisfied way, working under the terms of a wage settlement provided as the result of arbitration. The maximum wage of conductors and motormen in 1911 was 23 cents, and this maximum rate was to be increased ½ cent per hour on July 1st of each year until 1914, when the high rate for men over five years in service was to be 25 cents per hour.

Mr. Mitten called the men together and explained to them that it would be impossible for the company to survive if it increased the proportion of its earnings then being paid to conductors and motormen, which approximated 22 cents out of every dollar received by the company in fares from passengers. (The amount that was being expended at that time for wages, pension payments, etc., was actually 21.85 cents.) Mr. Mitten promised the trainmen that, if they would coöperate with his management under a plan which he had developed, he would set aside 22 cents out of every dollar which the company should receive in fares, as a fund to be used for payments to motormen and conductors.

It was in August, 1911, that this "coöperative welfare plan" was brought out by the Stotesbury-Mitten management, and it was accepted by the trainmen by public ballot in November of the same year. By this vote of the trainmen the principle of local self-determination was adopted, and it was established, that while employes of the Philadelphia Rapid Transit Company may belong to any union, lodge, or other lawful organization without "let or hindrance," there is to be freedom for the employer as well as freedom for the employe in the transaction of the business of the company on business principles, with a full measure of recognition of the responsibilities of each in the business enterprise.

In the "Annual report to the stockholders for the year ended December 31, 1918, and 8 years 1911–1918" the following statement is made:

> Co-operation with labor, so much to be desired, and so seldom secured, has here proven to be the keystone of accomplishment in providing satisfactory service to the public.

There were 445,599,008 passengers carried in 1910, the year the Stotesbury-Mitten management assumed control, with an average fare per passenger of 4.13 cents. In 1918 there were 767,758,406 passengers carried, with an average fare of 3.98 cents. In 1910 the wages of trainmen were 23 cents per hour.

The average wage per employe has been increased from $622.16 per annum to $1,204.23, or 93.6%. The total wage paid to all employes in 1918 was $13,197,170.29, as against $7,282,995.27 in 1910.

The trainmen who were receiving a maximum rate of 23c per hour in 1910, received 32c in September, 1916, 43c in July, 1918, and a further voluntary increase in August, 1918, to War Labor Board scale—48c per hour. The War Labor Board endorsed the amended Coöperative Plan of 1918, now in force, as being equitable and desirable as a means of promoting coöperative effort between Employer and Employe. The increase in wages of trainmen alone amounted to $7,692,844.03 in excess of the wage scale made effective as a result of arbitration, between the former Management and organized labor, following the 1910 strike.

Under the original coöperative welfare plan, if the gross receipts of the company increased through good management and the faithful work of all the wage workers, every wage worker received a direct addition to his wages, and he understood that this addition was the result of the faithful work of himself and his companions in the service. It would seem that among the readjustments following the close of the war, the principle of wage workers' participation in the profits of coöperation will be re-introduced into the Philadelphia Plan. Certainly this would be one of the most effective methods of keeping up the interest of the wager workers in turning out good work.

The suspended local of the international union of street railway workers maintained some show of activity throughout the years of the Stotesbury-Mitten management, but neither of two attempted strikes proved successful in causing interruption of the public service. One attempt was planned to take advantage of the depleted force resulting from the draft. Cars necessary to provide the extra service for war workers were manned and operated for several weeks by volunteers from all departments of the company. The complaint made to the National War Labor Board fell flat. The company was able to show by representatives of the shipyards, arsenals, etc., that service had not been interrupted and was being adequately supplied.

After their original action had been dismissed, the officers of the suspended local were continually on the doorsteps of the National War Labor Board and the Department of Labor with complaints against the company, chiefly of unfair discrimination. It was for this reason that a revision of the original coöperative welfare plan was suggested to Mr. Mitten, i. e., in order to provide a broader basis of procedure for the determination within the company of all such matters as were then being taken to Washington.*

Under the original coöperative welfare plan of 1911, wage workers and management had come into close contact. Wages had been adjusted, working conditions had been improved and sick and death benefits had been assured. But the old coöperative plan failed to provide an organization sufficiently complete and effective for all the needs of collective bargaining. The purpose of the new plan was to broaden and enlarge certain features of the old plan and to provide a system of adjustment entirely separate from the coöperative welfare work.

## II

The Philadelphia Rapid Transit Company is a business enterprise operating a system of electric railways for the safe, expeditious and comfortable carriage of passengers. About 11,000 wage workers are employed in all departments, who are distributed

*Note· The writer of this article, then an examiner for the National War Labor Board, had formulated in September, 1918, a collective bargaining agreement for the New York Central Iron Works Company, Inc., of Hagerstown, Md., and its employes, but the Philadelphia plan was the first real plan of collective bargaining originated in the National War Labor Board and upon it all subsequent plans were more or less based.

throughout Philadelphia and some of its environs, in more or less isolated contact groups.

The three human elements which give authority to the responsible management of the company are the public, the wage workers and the security holders. The responsible management represents all three of these elements, and for the best results it must have thorough coöperation from each of them. The success of the responsible management may be said to depend upon the measure of coöperation obtained.

The Philadelphia Plan, through a system of collective bargaining by representative committees of wage workers and direct representatives of the responsible management, provides a way whereby discordant interests may be harmonized in the family so that complete coöperation may eventually be obtained.

The plan provides that class and group contact of the wage workers shall be established; that the wage workers shall have a free and independent vote for their representative committees; and that the identity and integrity of wage workers' committees as wage workers' representative committees shall be maintained. It also provides that if differences cannot be determined within the industry itself by the representative committees of the wage workers, who are indirect representatives of the responsible management; and direct representatives of the responsible management, the public, which would be so harmfully affected by any dislocation of the service of the public utility, shall participate in the settlement of such differences.

The Philadelphia Plan aims to provide a complete form of local self-determination. Every local contact group of wage workers, however small, has its representative committee for collective bargaining with direct representatives of the management. These local contact group, or branch, committees progress into occupational class, or department, committees. The occupational class, or department, committees progress into general committees, representing the industry as a whole. See the chart of organization.

The responsible managing head is able to look down two clear and distinct lines of approach from the point of view of an impartial observer. One line consists of representatives of the wage workers, the other line consists of technical experts, superin-

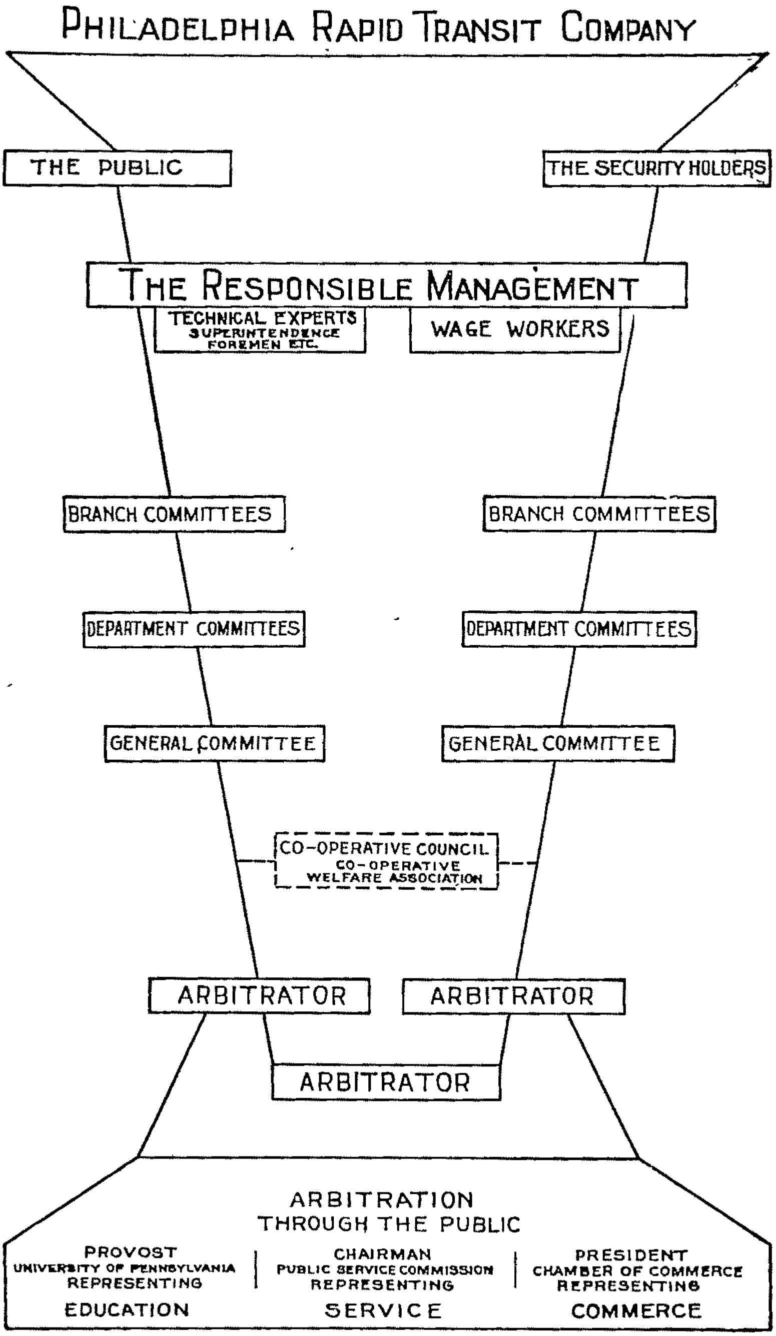
PHILADELPHIA RAPID TRANSIT COMPANY
THE PUBLIC
THE SECURITY HOLDERS
THE RESPONSIBLE MANAGEMENT
TECHNICAL EXPERTS SUPERINTENDENCE FOREMEN ETC.
WAGE WORKERS
BRANCH COMMITTEES
BRANCH COMMITTEES
DEPARTMENT COMMITTEES
DEPARTMENT COMMITTEES
GENERAL COMMITTEE
GENERAL COMMITTEE
CO-OPERATIVE COUNCIL CO-OPERATIVE WELFARE ASSOCIATION
ARBITRATOR
ARBITRATOR
ARBITRATOR
ARBITRATION THROUGH THE PUBLIC
PROVOST UNIVERSITY OF PENNSYLVANIA REPRESENTING EDUCATION
CHAIRMAN PUBLIC SERVICE COMMISSION REPRESENTING SERVICE
PRESIDENT CHAMBER OF COMMERCE REPRESENTING COMMERCE

FIG. 1.—THE SCHEME OF ORGANIZATION, P. R. T.

tendents, foremen, etc., representatives upon whom the managing head must rely to carry the authority of his responsibilities directly to the wage workers. With proper behavior by the direct representatives of the responsible management there can be no feeling in the minds of the wage workers that their "conditions of work and destinies are being determined by distant authority over which they have no influence." If there should be improper behavior on the part of direct representatives of the responsible management, the way is open for correction, for the Philadelphia Plan provides a clear avenue of approach.

In the event that a point of difference cannot be settled in the family, i. e., the industry as a whole, then the responsible managing head and his direct representatives step aside in order to avoid the enormous wastage, inconvenience and suffering consequent upon a street railway strike. The plan provides that:

> If resort to arbitration becomes necessary, then there shall be an arbitrator chosen by the general committee for employes and an arbitrator chosen by the general committee for employer; the two arbitrators so chosen to select a third arbitrator. Failing unanimous decision, the decision of any two of these arbitrators shall be binding.
>
> In the event that the arbitrator chosen by the general committee for employes and the arbitrator chosen by the general committee for employer are unable to agree upon a third arbitrator, then the provost of the University of Pennsylvania, the chairman of the Public Service Commission, and the president of the Chamber of Commerce shall be requested to serve as additional arbitrators, or, failing to do so, to appoint their own personal representatives to act as such additional arbitrators. Failing unanimous decision, the decision of any three of these five arbitrators shall be binding.

The following table and map give a list of the various contact groups, or branches, in each of the five occupational classes, or departments, the number of wage workers in each department, and show how the branches are distributed over the city of Philadelphia and its suburbs.

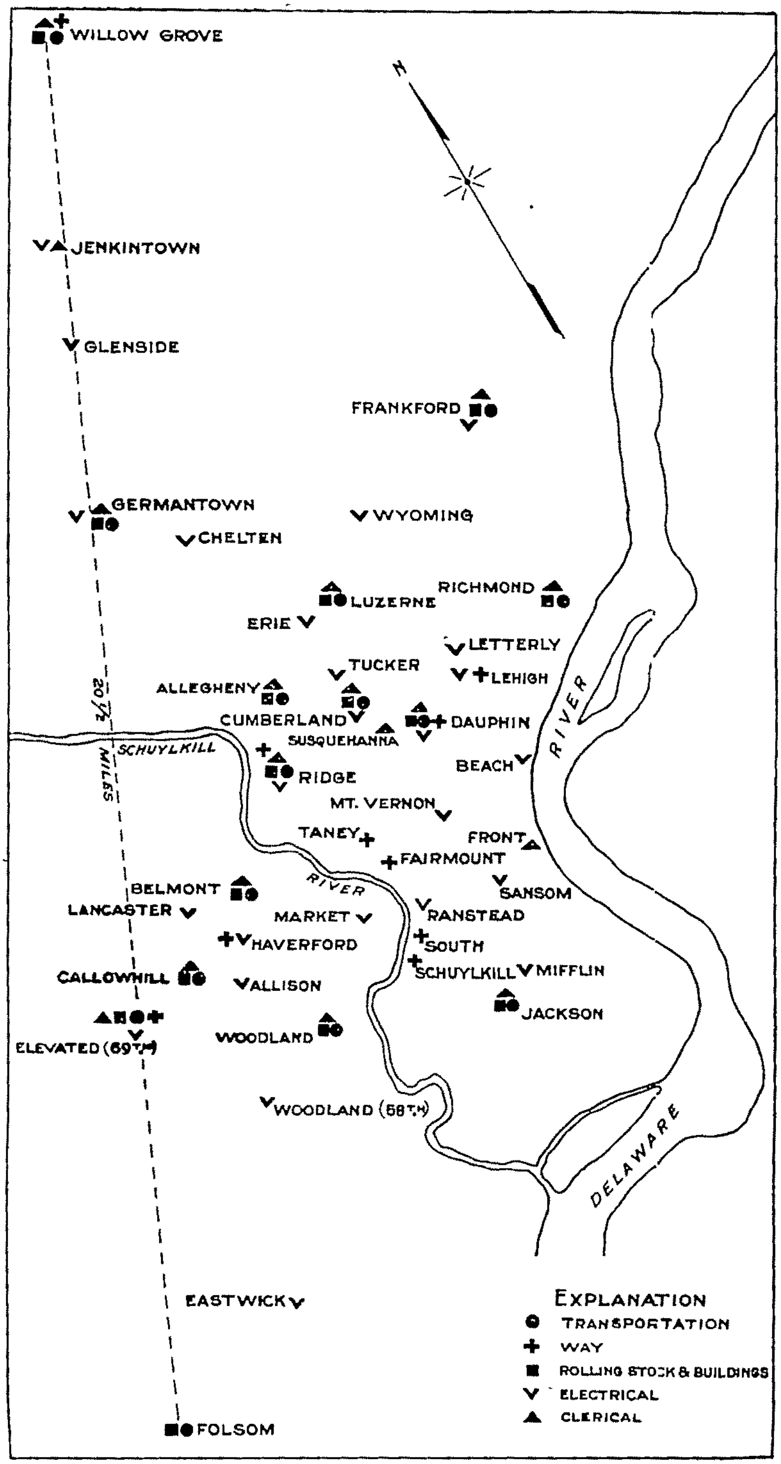

FIG. 2.—SHOWING GEOGRAPHICAL DISTRIBUTION OF THE VARIOUS STATIONS.

## PHILADELPHIA RAPID TRANSIT COMPANY.

*Transportation Department*

BRANCHES:

Luzerne
Woodland
Belmont
Jackson
Callowhill
Frankford
Ridge
Richmond
Allegheny
Cumberland
Willow Grove
Folsom
Germantown
Elevated

*Rolling Stock and Buildings Dept.*

8th Street Shop
Bldg. Construction
Kensington
Elevated
Germantown
Folsom
Cumberland
Allegheny
Richmond
Ridge
Frankford
Callowhill
Luzerne
Belmont
Woodland
Jackson

*Electrical Department*

Beach
Mt. Vernon
Wyoming
Repair Crews
Substations
Construction
Distribution-Overhead
Distribution-Underground
Market-Elevated

*Maintenance of Way Dept.*

Taney
Folsom
Fairmount
Willow Grove
Haverford
Schuylkill
Huntingdon
South
Amber & Lehigh
Water & Market

*General Offices Department*

Auditing—Receivers
Auditing—Cashiers
Auditing—Clerks and Freight Agts.
Transportation
Rolling Stock and Buildings
Electrical
Claims
Way
Purchasing
Printing
Secretary-Treasurer
Utility

A total of sixty local contact groups or branches, with approximately 11,246 wage workers, divided as follows:

| | | |
|---|---|---|
| Transportation Department | 7,082 | wage workers. |
| Rolling Stock & Bldgs. Dept. | 1,756 | do |
| Maintenance of Way Dept. | 1,099 | do |
| Electrical Department | 643 | do |
| General Offices | 666 | do |

The provisions of the plan follow:

### COLLECTIVE BARGAINING

*Voice and Vote.*

1. The workers shall have a free and independent vote for representatives for proper collective bargaining, and

2. Proper committee organization of such representatives so that class and group contact may be assured and the integrity of workers' committees be established and maintained.

### PROCEDURE

The business of Employer is divided into classes or Departments, and each Department is subdivided into contact groups or Branches.

Differences between Employe and Employer shall be settled through the medium of

1. Branch Committees.
2. Department Committees.
3. General Committees.
4. Board of Arbitration.

Any local point of difference shall be taken up by the Branch Committee at the local Branch of origin.

When a grievance is not settled through the proper Branch Committees then it shall be taken up by the respective Department Committees.

When a grievance is not settled through the proper Department Committees then it shall be taken up by the General Committees.

When a grievance cannot be settled through the General Committees it shall then be settled by arbitration.

All appeals shall be submitted in written form to the Secretary of the respective Committees, briefly setting forth all the facts of the matter at issue.

In the discussions of the Department Committees and of the General Committees it is intended that Employes shall sit on one side of the table, so to speak, and Employer on the other side, throughout the collective bargaining contemplated by this Plan.

The majority of any Committee of Employes shall be the voice of that Committee.

The majority of any Committee of Employer shall be the voice of that Committee.

Whenever the minds of the majorities of any Committees meet, the controversy shall be settled.

While it is intended that there shall be full and free discussion in order to arrive at an amicable understanding and settlement of controversies, whenever it is necessary to take a vote to ascertain the voice of any Committee, the Committees for the Employes and for the Employer shall have the right to retire and cast their vote in secret caucus. In such secret caucus all such votes shall be taken by secret ballot, said ballots to be returned unopened to the Secretary for the Committees. The Secretary shall count the ballots under the observation of both Committees and announce the result in open meeting.

### BRANCH COMMITTEES

There shall be elected two representatives by the workers at each depot, station or division. The candidate receiving the highest vote shall be declared No. 1 Branch Committeeman for that depot, station or division for the ensuing year, and the candidate receiving the second highest vote in like manner shall be declared No. 2 Branch Committeeman.

The employer shall appoint two representatives for each depot, station or division.

The two Committeemen elected by the workers shall constitute the Branch Committee for Employes. The two representatives appointed by the Company shall constitute the Branch Committee for Employer.

Committeemen shall be elected to serve for the period of one year. It shall be their duty well and truly to represent their fellow employes and to give all matters under consideration or discussion their best thought and the benefit of their knowledge and experience.

At least once in every three months there shall be an opportunity for a meeting of workers at each Branch, when reports shall be made by the local Branch Committeemen.

*Elections.*

The dates upon which Committeemen elections shall be held, as well as the hours during which the polls shall be open, shall be so arranged as to insure to every qualified voter at the local depot, station or division opportunity to cast a vote for one candidate, it being stipulated that the different election dates shall be arranged in such order and sequence as to provide always for a working majority on the several committees of members who are familiar with the nature and routine of the business transacted.

Notice of any Branch election shall be posted conspicuously at the said local Branch twenty-one days in advance of the date set for the election.

All elections for Committeemen shall be by secret Australian ballot under the supervision and direction of an Election Committee of three members chosen by and from the respective Department Committee for Employes.

All ballots cast, together with the official return of the Election Committee, shall be forwarded promptly to the Secretary of the Department Committee to become a part of the permanent records.

In case of decease, leaving service or inability to act of any Branch Committeeman, the remaining Committeeman shall act until a successor is elected. An election shall be held to fill the vacancy as promptly as possible in the same manner as the original choosing provided by this Plan.

*Qualifications for Voters.*

To qualify as a voter the employe must have been six months in the Company's service, be regularly assigned to duty, and not occupy an official position of any character with the Company. Every voter shall be entitled to all the rights and privileges under this Plan.

No voter shall be permitted to cast a ballot unless he or she shall appear at the polls in person, and within the hours prescribed for the election.

Lists containing the names of the workers qualified to vote at the election shall be posted conspicuously at the local Branch three days prior to the date set for the election.

*Qualifications for Committeemen.*

Candidates to be eligible to election as Committeemen must be regularly assigned to duty and have been continuously in the employ of the Company for not less than two years.

In the Transportation Department candidates must also be assigned to a regular run and be actually serving in the capacity of trainman or its equivalent grade.

Candidates for election as Committeemen must file with the Secretary of the General Committees, not less than thirteen days in advance of the date of election, official nomination papers, carrying the signatures of not less than seven workers qualified to vote at the respective Branch location

It is not intended that a worker shall sign more than one nomination petition at any election.

It is not intended that any employe who may properly be said to represent employer shall be chosen as a representative of workers.

### DEPARTMENT COMMITTEES

Employes in the several Departments shall be represented on their respective Department Committees through their duly elected members

The following Departments will each be represented by its respective Department Committee, viz.:

Transportation Department.
Rolling Stock & Buildings Department.
Electrical Department.
Way Department.
General Offices Department

These Committeemen elected annually by the employes of each Department shall be equaled in number by the Company appointments of its representatives. Each Committeeman shall be entitled to a vote.

Each Department Committee for Employes shall consist of all No. 1 Branch Committeemen and all No. 2 Branch Committeemen elected by the workers at the several depots, stations or divisions in that Department. In the event of decease, leaving service, or inability to act, of either Branch Committeeman then the remaining Branch Committeeman for that Branch shall act on the Department Committee until a successor is elected in the manner hereinbefore provided for filling a vacancy on a Branch Committee.

*Officers.*

The Department Committee for Employes and the Department Committee for Employer shall each elect its respective Chairman.

The Secretary for the General Committees, or an authorized representative, shall act as Secretary for the several Department Committees, without vote.

*Meetings.*

Stated meetings of each Department Committee shall be held in alternate months throughout the year. Special meetings shall be held at the call of the Secretary or upon the request of five members submitted in writing to the Secretary.

No less than two-thirds of the members of any Department Committee shall constitute a quorum for the transaction of business at any regular or special meeting of that Committee.

### GENERAL COMMITTEES

The members of each Department Committee for Employes shall annually elect two of their number, the members so elected to constitute the General Committee for Employes.

The members of the General Committee for Employes shall be equaled in number by the Company's representatives, to be appointed by the President of the Company, the members so appointed to constitute the General Committee for Employer.

A vacancy occurring in the General Committees shall be filled as promptly as possible in the manner of the original choosing

It shall be the duty of the General Committees to devise ways and means for furthering the efforts of the various Department Committees for the greatest possible good, to promote harmony and good fellowship among all employes of the Company, to formulate plans for submission to the several Department Committees, and to render every assistance within their power toward advancement of the interests of the employes and the betterment of the service.

Further, the General Committees shall posesss the power to review, modify or reverse any findings or decision of the Department Committees, and may, in their judgment, change any portion of this Plan or any modification thereof or the composition of any of the Committees, or any of their various respective functions.

The scope and authority of the General Committees shall be superior to that of the Department Committees and their decisions in all matters shall be final and binding, except as hereinafter provided.

*Officers.*

The General Committee for Employes and the General Committee for Employer shall each elect its respective chairman The Secretary for the General Committees shall be appointed by the President of the Company, and shall not be entitled to vote. It shall be the duty of the Secretary to keep accurate minutes of meetings of all Committees. For this purpose an Assistant Secretary shall be employed to assist in keeping the minutes and conducting the details of the several Committees.

*Meetings.*

Stated meetings of the General Committees shall be held on the third Tuesday of each month.

Special meetings shall be held at the request of the Chairman of either of the General Committees, submitted in writing to the Secretary.

No less than two-thirds of the members of each General Committee shall constitute a quorum for the transaction of business at any regular or special meeting.

### BOARD OF ARBITRATION

If resort to arbitration becomes necessary, then there shall be an arbitrator chosen by the General Committee for Employes and an arbitrator chosen by the General Committee for Employer, the two arbitrators so chosen to select a third arbitrator. Failing unanimous decision, the decision of any two of these arbitrators shall be binding.

In the event that the arbitrator chosen by the General Committee for Employes and the arbitrator chosen by the General Committee for Employer are unable to agree upon a third arbitrator, then
The Provost of the University of Pennsylvania,
The Chairman of the Public Service Commission, and
The President of the Chamber of Commerce
shall be requested to serve as additional arbitrators, or, failing so to do, to appoint their own personal representatives to act as such additional arbitrators. Failing unanimous decision, the decision of any three of these five arbitrators shall be binding

### COMPENSATION

The pay of members of the General Committee for Employes and of all Department Committees for Employes while employed on Committee work shall be paid from the funds of the Co-operative Welfare Association and shall be at the rate received by the respective employes at their regular occupations, and while so employed they shall receive no pay from the Company

The members of the General Committee for Employer and of all Department Committees for Employer shall receive no compensation from the Association for their services as Committeemen, but shall receive from the Company the continuation of their regular pay as Company employes.

Each arbitrator shall be paid from the funds of the Co-operative Welfare Association, as compensation for his services, an amount to be determined by the General Committees

All expenses of any character incident to the carrying out of the Co-operative Plan shall be paid out of the funds of the Co-operative Welfare Association—the same being represented in the amount of the dues as paid in from time to time by the members of the Co-operative Welfare Association and in the sum of $10,000 per month paid in by the Company.

### CO-OPERATIVE WELFARE

*Membership.*

Membership in the Co-operative Welfare Association is open to employes one year or over in service and over 16 years of age, without initiation fee, $1 00 per month will be deducted from the pay of each member, and said dues will entitle members to life insurance, sick benefits and pension, as herein provided.

The Company during the period of this Management has paid into the various funds representing sick benefits, pensions, deaths benefits, and other benefactions, at the rate of approximately $90,000 per annum. Under the Co-operative Plan of 1918 the Company will contribute a lump sum of $10,000 per month to the cost of carrying out the conditions contained therein.

Should the income realized by the payment of $1.00 per month from members and $10,000 per month by the Company be found insufficient to meet the expenditures of the Association, the dues of members will be increased sufficiently to prevent a deficit in the funds of the Association, and no increase in the amount paid by the Company shall be made until the total amount paid monthly by the members equals the $10,000 paid monthly by the Company. Thereafter all increases shall be borne equally by both. The Company, however, will not reduce its minimum payment of $10,000 per month should the present dues of $1.00 per month create a surplus in the funds of the Association.

*Life Insurance.*

A Blanket Policy has been issued by the Metropolitan Life Insurance Company, insuring the lives of employes of the Company desiring to avail themselves of this protection through the medium of the Co-operative Welfare Association.

Certificates of Insurance providing for $1,000 life insurance have been delivered into the possession of each member of the Association, to remain in full force and effect so long as the member continues in the employ of the Company and retains membership in the Co-operative Welfare Association.

This replaces the death benefit of $150 formerly paid under the Co-operative Plan of 1911, to which the members contributed 25c per month, and also replaces the $500 given by the Company to dependents of deceased employes who had been over two years in its service.

The Metropolitan Life Insurance Company makes payment of benefits and insurance under its policy direct to the beneficiaries of the members of the Co-operative Welfare Association.

Each Certificate of Insurance for $1,000 issued by the Metropolitan Life Insurance Company, under the provisions of the Blanket Policy, entitles the holder, upon leaving the employ of the Company, to re-insure for the same amount with the Insurance Company without medical examination, at rates based upon the member's then attained age. Any such member subsequently returning to the employ will again become eligible for re-insurance under the provisions of this Blanket Policy.

A special feature of this Certificate of Insurance is a provision that in case of total and permanent disability, occurring before the member shall have attained 60 years of age, from causes arising after the issuance of insurance, the insured will be entitled to receive from the Insurance Company the $1,000 covered by the policy in monthly or yearly installments as set forth in the Certificate of Insurance for $1,000 now in the possession of each member of the Association.

*Sick Benefits.*

Sick benefits are payable at the rate of $1.50 per day, commencing with the eighth day's illness, for a period not to exceed 100 days in any consecutive 12 months.

This replaces the former sick relief of $1.00 per day for 100 days in any consecutive 12 months.

*Pensions.*

Pensions of $40.00 per month are payable to incapacitated employes who have reached 65 years of age and have been continuously in the service for 25 years; meritorious cases of long service, but falling short of these requirements, to be given special consideration.

This increases the former pension plan from $20 to $40 per month

*Administration.*

The affairs of the Co-operative Welfare Association shall be administered by a Co-operative Council consisting of the combined membership of the two General Committees for Collective Bargaining. The administration of the Co-operative Welfare Association shall be entirely separate and distinct from the function of Collective Bargaining.

The Co-operative Council shall act as Trustees of Insurance for the Co-operative Welfare Association and shall also authorize the expenditure of all moneys, including payment of sick benefits.

The Co-operative Council shall also pass upon the issuance of Insurance Certificates and the validity and merit of all applicants for pensions.

The President of the Co-operative Welfare Association, who shall also act as Chairman of the Co-operative Council, shall be elected annually from the membership of the Association by the majority vote of all the members of the several Department Committees for Employes.

The Chairman of the Board of Directors and the President of the Company shall be the Honorary Chairmen of the Co-operative Council.

The Secretary-Treasurer of the Co-operative Council and the Assistant Secretary-Treasurer shall be appointed by the President of the Company. The Association shall employ such other assistants as may be required.

The Company's Auditing and Treasury Departments are to be placed at the disposal of the Co-operative Council for the purpose of keeping the accounts and safeguarding the funds of the Co-operative Welfare Association.

It is obvious that the spirit in which the Philadelphia Plan is developed is sincere. It is based on fundamental necessities as shown by practical experience and it is being carried out so that no fair minded participant has any fault to find with the way it is functioning.

Co-operation between employers and wage workers must be based upon a recognition of their common interest, both as parties to industry and as members of the community. *Such co-operation must be continuous and constructive.* Employers must realize that both their own interests and the obligations of citizenship impose upon them the necessity of a sympathetic understanding of the lives and standpoint of those with whom they work and a willingness to co-operate, without dictation or patronage, in every endeavor to improve their material or social conditions. Labor must realize its direct interest in the improvement of industrial processes, the organization of industry, the standard and quantity of production and the elimination of waste in material or effort. (Garton Memorandum.)

The larger part of the wage workers of the Philadelphia Rapid Transit Company are trainmen, i. e., motormen and conductors. This is an occupation which requires only a brief period of training before comparative expertness is attained. In a limited number of weeks motormen and conductors are participating in the most vital function of the responsible management. Every motorman and conductor who takes a car out of a barn through the streets of a crowded city, guides and directs a business enterprise in itself almost complete. It certainly cannot be said that such wage workers are not functioning through responsible and conscious action.

The plan is the outgrowth of business enterprise. In accepting it the Philadelphia Rapid Transit Company did not shift or avoid any of its obligations and duties. The wage workers have assumed new responsibilities which are always associated with the assumption of new measures of freedom. New freedom for the wage workers and for the management will arise from the acceptance of responsibilities and a fair attempt by both to carry out their undertakings. This will mean better workers and better work, not only by the wage workers, but by the direct representatives of the responsible management as well.

The assumption of responsibilities implies a certain order of capacities and it must be recognized that the general measure of industrial responsibility contemplated by the Philadelphia Plan is not easily obtained or easily discharged. A real feeling of responsibility cannot be lightly assumed, and if the Philadelphia Plan for Collective Bargaining and Coöperative Welfare, after many trials, eventually succeeds in inducing, developing and preserving the active interest and desire to assume responsibilities on the part of the wage workers it will be satisfactory The full fruits of coöperation are only to be obtained after orderly growth and development.

As Dr. Eliot has so happily stated:

> American liberties are to be preserved just as they are won. They have been slowly achieved by generations of sturdy, hard-working people who valued personal independence, industry, thrift, truthfulness in thought and act, respect for law, family life and home, and were always ready to fight for the defense of these things.

# The Background of Industrial Democracy

### By John Leitch

TO me too much of the present day discussion, looking towards the attainment of a just relation between the employer and employe concerns itself with phrases which masquerade as principles. For instance, "profit-sharing," "collective bargaining," "union recognition," "labor is not a commodity," "democratic control of industry," are discussed as though each contained in itself something which would make the employer-employe relation perfectly fair and at the same time insure a continuance of industry.

Now, the relations of industry are human; they are concretely and not abstractly economic. If one believes, as I believe, that production for profit gives a more workable basis for society than production for use, then one must of necessity direct his thought to the end that the following results may be realized:

1. A fair profit for capital, depending upon the skill of its management.
2. A fair wage for labor, depending upon the skill of its performance.
3. A fair price to the public.

It does not help matters to confuse production for use and production for profit. It is quite impossible to ride both of these horses, although I notice a tendency among those who seem to believe that all mundane affairs may be settled by further discussion to ride the one horse and speak lovingly of the other.

Let me review a few of these phrases that pass as principles.

Take profit-sharing. We might hope for something in this direction if only human nature could be so arranged that every business would turn a profit. But we know that even in these times when it is so difficult for a manufacturer not to make a profit, at least one half of them do not have an excess of income over outgo. We also know that it is very rare for a new business to turn a profit which is worth mentioning until after at least five years of continuous struggle. Speaking in rather general terms, I think an investigation would disclose that all the business adventures which are today well-founded and making large profits, have passed through many years on the non-profit basis. Of course, in this I exclude those concerns whose prosperity, if such it may be called, is due solely to the war. They are merely evidence that sometimes it pays to gamble.

Without going into the question of whether there is at any stage, a point of contact between the employer and the employe which could support the proposition that they are partners, I think it is quite useless to discuss profit-sharing, unless its proponents will invent profit insurance.

Take collective bargaining. It proceeds on the theory that labor should sell and capital should buy in bulk at an average grading. If the employer and the employe would severally view industry as an opportunity for service, then their respective remunerations would be cared for, as of course good work well done is bound to have its financial as well as its other rewards. But since this view of industry is not general, I am in favor of collective bargaining as a means of establishing what might be called a minimum wage. I am not in favor of the kind of collective bargaining in which the seller does not offer to sell value or the buyer to give value. Collective bargaining becomes pernicious when the mere presence of men and not the work that they will do is offered at a price. For then we tend to encourage that belief (which is growing throughout the world and which has been so fostered by opportunist governments) that industry is an automatic mechanism built by the Creator to pay wages and not to make goods. Those of us who have participated in industry, both as workers and as managers, know clearly that it is not automatic; that wages are paid solely on production; that wages cannot be raised by agreement but only by better production and that when we raise wages without bettering production, we are only adopting new symbols to express old values and not changing relative positions. Further, when we raise wages and lessen production, which is the habit of the world today, then we are really on our way to the destruction of both capital and labor, for we cannot get something for nothing.

The matter of union recognition and the participation of labor in the control of industry are nothing in themselves. If they proceed on the theory that something may be had for nothing, then they will but destroy industry. We have to admit that any principle or thought entering into this whole relation is to be classed as helpful or as harmful according to whether it is constructive or merely protective or destructive. In our present state of society, we need a certain amount of protective regulation, but do not let us confuse protection with construction. Adding a dozen brakes to an automobile may make it a safer vehicle, but the brakes will not take it over a hill.

If we recognize somewhat more clearly what business is, I think we should have considerable less trouble in adjusting the component parts. If the employer realizes: (1) that his factory is not primarily a collection of machines; (2) that the wholly automatic machine never has, and never will be, invented; (3) that improvements in machinery are to be considered only as extensions of the power of the hand and the brain; (4) that the business cannot be truly successful unless hands and brains as well as machines are at work; (5) that he is in charge of something which is essentially human rather than essentially mechanical; if he realizes all this then he will not have labor trouble, for he will be filled with the thought that it is not the machines but the men who are creating and that there is now no ascertainable limit to creative ability and consequently no limit to its financial reward.

If the men hold this same point of view—that they are creating and producing and not merely working for someone—then they too will begin to see more clearly that the enduring rewards of industry are gained by effort and are not haphazard and accidental.

It is through representation that this mutuality of thought may be obtained and maintained. That is the end which I have in view in my thought on representation and, because this objective is so well defined, I do not like to stray into by-paths or to stop much to talk along the way about this or that which may for the moment seem to be of consequence, and that also is why I am more concerned with results than with objections.

The whole end of that which I term "industrial democracy" is to gain this mutual understanding. I am not interested in setting up formulas; I am not interested in grandiose plans for the national regulation of industry, because I think that intelligence is not something which can be superimposed, but is a growth. I cannot see other than eventual harm growing out of the Whitley plan of Joint Industrial Councils, because the assumption there seems to be the not uncommon one that regulations can be continuously substituted for intelligence.

Individuals must know how to read before you can give them much education and, therefore, unless representation of workers in industry tends to give them a wider knowledge of industry and unless that representation equally educates the employer, we are not going to get very far with representation. It is not to be regarded merely as a shibboleth. For instance, if we set up a shop committee composed equally of representatives of the employers and employes merely to hear and to adjust complaints, we are not doing anything in a constructive way. Representatives whose main function is to receive and to adjust complaints and who have no constructive authority, will merely be prolific sources of trouble.

The settling of disputes is, of course, interesting, and undoubtedly is convenient, but it is not progress. It does not help anyone to be encouraged to air his troubles. If you organize a factory with the idea in mind that the people have been brought there primarily to have their grievances settled rather than to work, then you are but promoting an undoubtedly interesting clinic in hypochondria. I think the results of shop committees or other bodies organized solely on this basis bear out my statement.

My procedure is quite the opposite. I want to give responsibility for constructive action and then the complaints and differences which arise are viewed by the people not merely as disputes, but as impediments to progress and are to be treated as such.

My organization is simple. First comes a House of Representatives to which the workers elect representatives, the apportionment of representatives being a detail which will differ more or less with the character of the institution; the idea being that the House should be large enough eventually to contain most of the best brains among the workers and yet not so large as to be cumbersome. The House occupies, in the factory, much the same relation as does the House of Representatives at Washington in the affairs of the nation. The mere matter of terminology is not to be neglected, for most workers are familiar with the federal government in at least a general way and a House of Representatives means something concrete to them.

The House appoints committees as the needs may arise, headed by a Ways and Means committee which is in the nature of a general steering committee. The acts of the House must be concurred in by the Senate, which is not elective, but which consists ex-officio of the foremen and superintendents and most of the officers below the top executive status. Either chamber may originate bills, their committees meet in conference to adjust differences, while, when need arises, the Senate and House sit together. They keep minutes; they observe rules of order and they legislate.

When a bill has been signed by the speaker of the House and the president of the Senate, it goes to the Cabinet. The Cabinet consists of the high executive officers of the company with the president of the company sitting in the chair. If they do not like the bill, they can veto it, or they can send it back with suggestions and explanations and also they can send messages suggesting certain legislation.

But it is a tribute to the common sense of the workers that never in any of the plants where this form of industrial democracy has been operating, has it been found necessary to exercise the right of veto. By the time any measure has been threshed out in the committees and on the floor of the Senate and the House, and has been taken up in joint committee, it is reasonably certain that it is a good law which would benefit both the men and the company.

This legislative formation exists for only one purpose, that is to promote the "square deal." It will not promote the "square deal," it will not give the participants an opportunity to inquire into and finally to know the processes of industry and how they may be improved, unless both sides are wholly convinced that the "square deal" is intended. I find that it is first necessary to convince both the employer and the employe that the other fellow desires to be fair. In other words, the plan has to be sold and it has to be kept sold continuously.

To begin an organization all at once is only to invite trouble. The employer is apt to say, "Well if this will turn the trick, I will give them representation."

While the employe will probably in turn say, "This is only some sort of a dodge on the part of the 'big boss'; I am not going to be fooled." And neither will then take any vital interest in helping to make the business better.

I want to emphasize this phase, because I see everywhere representation being urged as a remedy when in fact it is only a means. Therefore, it is always my practice before setting up fully the government, through several weeks, first with the management and then with the workers in mass meeting, to sell the *principles* upon which the organization will thereafter operate. That is, the principles of Justice, Coöperation, Economy, Energy and Service. I regard these principles as so important that I have added them to this article as an Appendix. They represent a kind of bill of rights, a working agreement, a new business policy, under which injustice becomes impossible.

These principles are invariably posted about the works and copies of them are put in the hands of everyone connected with the organization, from the chairman of the board of directors down to the newest office boy. For everyone is concerned in the conduct of the company; there is no such thing as considering the labor phase as something apart.

The results have been invariably that gradually mutual suspicion evaporates and the people turn to the making of a better company—to making a better product and in a more economical and efficient way.

I have in my possession a report made by the firemen and engineers in the Packard Company on the consumption of coal. These men are but ordinary workmen without any kind of scientific training, but they got so thoroughly on their jobs, they went so deeply into the science of firing that they turned out a report containing suggestions and then carried them out in a way that could not be bettered by a trained engineer. This is only one example. There are no end of others.

The participation of the workers in the direction of their daily tasks gives them a new point of view and causes them to attack their jobs in the spirit of craftsmanship. Their creative energy is stimulated and a task which previously had seemed only monotonous becomes an object of study to discover how the process may be bettered.

I have not touched upon remuneration. It is important, but it is not controlling. Unfair rates speedily come up in the legislature, are investigated by committees, and adjustments are recommended.. The members of the legislature deal likewise with the question of hours. When they adopt the eight hour day, as they generally do, they always go into the subject with the utmost care to the end of discovering whether they can so better production and take up slack as to be able to do as much in eight as in nine or ten hours. I have often been surprised myself at the very thorough and intelligent investigation which practically every problem is given before decision. The wages as paid are the results of these adjustments. Because the men do their work more intelligently, the base wage, whether it be on piece or time basis, will generally be in excess of the market rate, although per unit of production, the percentage of wage will invariably decrease, which is as it should be.

In addition to the wages, the men receive a dividend payable at intervals, not exceeding one month, so that the work and the dividend will never lose connection. This dividend is calculated on the economies of operation. Not all economies are due to the workers, many are due to management, but it would be too difficult and too provocative to trace every economy or improvement in method to its source. The amount of money thus saved is divided into two parts, one part goes to the company and the other is distributed as a percentage dividend to the workers, their shares being based upon the rate of wage received. The man with a narrow business outlook who imagines that his processes have been perfected, will be surprised to learn that the process of cutting cost is apparently one which has no end. Of course, in these times, the economies are relative.

I have made no mention of how the unions view this form of organization. It is not anti-union, neither is it pro-union. The shops are never "closed," but the rate of wages and the hours are always beyond anything which the unions can reasonably or even unreasonably demand for the section. Therefore, there is no conflict on these points. In most of the companies with which I have been connected, the number of union and non-union men employed has been about equal—although in one shop which I have in mind, nearly every employe carried a union card. But—

and I imagine this is because there is nothing for the union to object about—I have never had a union conflict, while I have had many endorsements from local leaders and in several cases employes who were officers in the locals occupied positions of responsibility in the shop organization.

Since there is practically no point, excepting the closed shop, on which our companies might conceivably come into union conflict, I am not much concerned with the union phase. I regard unions as giving a beneficial protection against the unfair employer and it is quite contrary to human nature for men, union or otherwise, to insist upon mere formulas being observed when their essential rights are carefully guarded.

## APPENDIX

### BUSINESS POLICY OF THE PACKARD COMPANY

We, the Employes, Officers and Directors of the Packard Company, recognizing that "Justice is the greatest good and Injustice the greatest evil," do hereby lay and subscribe to, as the first corner-stone of our Policy, this greatest of all good,

### JUSTICE

The fullest meaning of this word shall be the basis of all our business and personal dealings—between ourselves as individuals, between our company and those of whom we buy and between our company and those to whom we sell.

Justice shall be the first Corner-stone upon which we agree and determine to construct broader character as individuals and broader commerce as an institution.

We recognize that justice to ourselves necessitates taking advantage of every opportunity to do the best that is in us, and each day improve that growing ability.

We realize that merit must be recognized whether in ability or merchandise. With this certainty we cheerfully, hopefully and courageously press forward to certain and unqualified success.

The second Corner-stone of Our Policy is

### CO-OPERATION

To accomplish the greatest possible results as individuals and as an institution we find Co-operation a necessity.

We recognize that business without Co-operation is like sound without harmony. Therefore we determine and agree to pull together and freely offer, and work with, the spirit of that principle—CO-OPERATION.

So we shall grow in character and ability and develop individual and Commercial Supremacy.

Differences of opinion shall be freely and fearlessly expressed, but we shall at all times stand ready to CO-OPERATE with and heartily support the final judgment in all matters.

The third Corner-stone of Our Policy is

### ECONOMY

As each moment is a full unit in each hour and each hour a full unit in each day, so each well spent unit of thought and well spent unit of action makes for each victory and the final success.

When the hour, the day, the year or the life is filled with well spent ability, and an institution is composed of individuals who recognize the value of and so use their time, then success is controlled and governed and there is no longer that vague uncertainty or a blind and unreasoning hope.

Life is like a bag in which, each moment, we place a unit of value or of rubbish, and our present and future happiness depends upon the contents of that bag.

Recognizing that ECONOMY is time, material and energy well spent, we determine to make the best use of them, and so shall time, material and energy become our servants while we become the masters of our destiny.

The fourth Corner-stone of Our Policy is

### ENERGY

As Energy is the power back of action, and action is necessary to produce results, we determine to ENERGIZE our minds and hands, concentrating all our powers upon the most important work before us.

Thus intensifying our mental and physical activity, we shall "Make two grow where one was," well knowing that our Individual and Commercial Crop of Results will yield in just proportion to our productive and persistent activity.

This power of Energy directed exclusively toward sound and vigorous construction leaves no room for destruction and reduces all forms of resistance.

Having set in our Business Policy, the four Corner-stones of JUSTICE, CO-OPERATION, ECONOMY, and ENERGY, we are convinced that the superstructure must be

### SERVICE

We believe that the only sure and sound construction of success as an individual or an institution depends upon the quality and quantity of SERVICE rendered.

We neither anticipate nor hope to be unusually favored by fortune, but are thoroughly persuaded that fortune favors the performer of worthy deeds and of unusual service, and we therefore determine that our days and our years be occupied with such performance.

Quality shall always be the first element of our SERVICE and quantity shall ever be the second consideration.

Thus shall we establish not only the reputation but the character of serving best and serving most.

Therefore, by serving admirably, we shall deserve and receive proportionately.

# The Organization of an Open Shop Under the Midvale Plan

By EDWARD WILSON

Patternmaker, Midvale Steel and Ordnance Company, Philadelphia, Pa.

THE need for a workers' organization of some kind in every plant must be apparent to every one interested in industrial development. Without such an organization, we have strikes, lockouts, large turnover of labor, slackness, poor discipline, and general dissatisfaction on the part of both employer and employe alike. With a good organization, these ills can be minimized.

Many experiments to placate the worker have been tried out in the past, but none have succeeded, chiefly because the human element has always been given insufficient consideration. The worker, being human, asks to be treated as a man, and not just as a cog in the machine; he does not want to be coddled or favored, but he wants the confidence and respect of his employer when he merits it, his labor and loyalty appreciated, and his just rights assured.

The relations between the employer and worker have been so strained in the past that almost universally they regard each other with suspicion and resentment, if not with open hostility. Among the many things responsible for this condition are class distinctions and class legislation (the fruits of which are at this time very apparent on the autocratic side in Germany, and on its opposite in Russia and the bolshevist movement everywhere).

The wily politician gets in his little work at every recurring election by shouting and vociferating for the workingman, what great things he or his party will do for the workers. Then, when elected, this wily gentleman usually votes as he is directed and the worker certainly has no say in the directing. He seems to ignore the fact that the American workingman, as a worker, wants nothing from his government, but as a citizen demands the same rights and privileges as are accorded to any other citizen no matter what his standing.

Then the autocratic employer will not take time and often has not the inclination to hear complaints from any worker; he arbitrarily rules against the worker in every case without any regard as to the merits or demerits of the worker's complaint, because *he knows* the worker is always (?) wrong. Very much of this sort of thing is rapidly disappearing. Employers everywhere are searching for means to bring management and men in closer touch by coöperation and collective bargaining, to build up confidence and respect for both parties. They want the management and men to learn to work together with a decent regard for the rights of one another. It is conceded on all hands that the interests of employer and worker are identical. That being true, every effort should be made to have the interests of both parties brought to a harmonious, just and practical agreement. This can only be done by both parties getting together to discuss freely and fully any and all disputes and disagreements there may be between them, without prejudice or rancor, man fashion, face to face, and thus to thresh out their differences to a just conclusion. That the workers of a plant can be organized to bring about these long wanted conditions is no longer open to doubt.

In September, 1918, the Midvale Steel and Ordnance Company submitted to its employes, a plan entitled *Plan of Representation of Employes* which was promptly adopted by the workers. This plan is drafted to give the workers, through representatives chosen by themselves, the right to a voice in all matters pertaining to working conditions, wages, hours, welfare, etc., and is entirely in the hands of the wage earners themselves. No salaried official has, nor can have under the plan, anything to do with it. It is so simple in wording and operation there is no chance for misunderstanding.

The organization, under the plan, is made up at present of a committee of thirty-three elected from thirty divisions, on a basis of one representative to three hundred workers. This committee elects from its own number a committee, termed the Plant Conference Committee. One of the functions of this committee is to handle all matters concerning the election of representatives.

In method, the elections are similar to our municipal elections and are absolutely secret. Three workers are chosen by the committee in each division as an election board, and these three men have full charge, under the supervision of the Plant Conference Committee, of conducting the election. Each board is provided with ballots, ballot box, return sheet, and a list of names and numbers of the voters in the division entitled to vote. Notices of nomination and election, indicating the number of representatives to be elected in each division, must be publicly posted in each division one week in advance of election and shall state that all employes are entitled to vote with the exception of salaried foremen and superintendents. Balloting for nominating representatives is held one week prior to general elections. Special elections are similarly called when, for any reason, a vacancy occurs in the representation of any division. To insure absolute freedom of choice, both nomination and election are by secret ballot, under conditions insuring an impartial count. Each employe entitled to vote, is given a nomination blank on which he writes the name of the fellow employe in his division whom he desires to nominate as his representative and himself deposits the blank in the ballot box. Employes unable to write may ask any of their fellow employes to write for them. Candidates to the number of twice as many representatives as the division is entitled to, receiving the highest number of votes, are regarded as the duly nominated candidates. For example, if the division is entitled to two representatives, then the four receiving the highest vote are placed on the ballot for election. The election board shall count the nominating ballots, making a list showing the number of votes cast for each person, and post notices, signed by each member of the board, publicly in each division, giving the number of votes cast for each person and announcing the nominees. These notices must be posted at least 48 hours before election. At the election of representatives, printed ballots, with the names of candidates, the number of the division and the number to be voted, are given to the election board. The worker steps up to vote, is identified by his shop badge, is given a ballot which he privately marks and deposits himself in the ballot box. Elections are held at the same time in all divisions and polls kept open for 24 hours, so as to give workers on all shifts a chance to vote. After the votes are counted by the election board, lists in triplicate, showing the number of votes cast for each candidate, are made out by them; one for the conference committee, one for the general superintendent of the plant, and one to be posted in the division. Any representative proving unsatisfactory to not less than two-thirds of the workers of his division may be recalled and a successor elected.

The actual working of the plan is as follows: Any man having any grievance, or any matter on which he desires to have a decision, shall first present the subject to his immediate foreman or superintendent, either in person or through his representative. If unable to secure a satisfactory adjustment, the representative shall present the matter in writing for consideration to the Plant Conference Committee. If, in the judgment of the committee the grievance is a just one, they present the matter in writing to the general superintendent, who shall then confer with them, with a view of reaching a satisfactory settlement. The general superintendent, if he so desires, may call into this conference all of the division representatives. This has not as yet occurred in our plant. If the general superintendent and representatives are unable to agree on any question, the matter shall be referred to a committee, consisting of the general superintendent of all the plants of the company and all members of the Plant Conference Committees of all the plants. The combination is known as the General Committee. On all propositions submitted to this committee, the general superintendent shall cast one vote for the company, and the conference committees shall cast one vote for the employes. If this committee can reach no agreement, the matter shall be referred to arbitration. One person shall be elected as arbitrator if all parties can agree on his election, otherwise, there shall be a board of three arbitrators, one selected by the president of the company, one by the employe members of the General Committee. These two, if unable to agree, select a third arbitrator. The decision of the arbitrator or arbitrators shall be binding on both the company and the employes. Additions and amendments can be made to this plan when changing conditions or other circumstances make such change necessary.

Thus, in this most democratic manner are grievances adjusted. As a sample of the work done in this connection since the signing of the armistice, the working force of this plant has been reduced, due to lack of work, from about 11,000 to about 4,500, entailing innumerable changes and adjustments. These were made by the managements, with the coöperation of this committee to the entire satisfaction of all parties.

Much of the matter written on the subject of collective bargaining is pure theory. What the writer has just said in regard to a system of collective bargaining is neither an argument nor a theory; it is a fact. The plan works; indeed, it has been a success from its inception and, as the workers become more and more intimate with its details, its succcess in the future is assured.

The advantages of all this to the workers are almost incalculable: it adds much to the dignity of his job and lifts him out of the depressing rut of drudgery, by giving him a part in the management of the plant, in so far as working conditions, discipline and welfare are concérned. Its benefits to him are to be measured only by the wisdom and energy with which he grasps the opportunities and meets the obligations afforded by this plan.

The advantages to the plant are just as vital, because it results in a strongly organized, efficient, well disciplined working force, in which every confidence can be placed. Self-respecting men contented with their jobs, giving their best, with the assurance that their rights will be recognized and their wrongs redressed, will make a working force that means peak production, with a minimum of friction and a minimum loss of money due to a large labor turnover. It may be a simple matter to fill a plant with men, but to get together a smooth working force is often an extremely difficult proposition.

One of the adverse criticisms of this plan is that men meeting in company time on company property cannot truly represent their fellows, that only men favored by the company can be elected as representatives and that all their activities are inspired and controlled by the management. Criticism of this sort we respectfully submit is a severe arraignment of the capacity of the worker to govern himself. If he is not fit to govern himself in an open shop, his case is hopeless, for the law of averages applies here as it does everywhere and the workers in an open shop are just as conscientious and just as independent as they are anywhere else. A careful reading of the details of our plan should be answer enough to such criticism of the future of such a scheme.

In this age of democracy, when men everywhere are trying by all sorts of means to lift up and improve living and working conditions for everyone, with striking force there comes the old Biblical injunction, "Come let us reason together." This, if accompanied by mutual respect and confidence, together with a growing desire and demand for improvement at all times and the knowledge and faith that experience alone can give, will sooner or later bring us a long way toward solving the problems that have confronted employer and employe alike in the long past.

# Statistical Control Including Costs as a Factor in Production

By Harlow S. Person

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*General.* A manager desiring to determine the best place at which to locate a particular type of retail store, considers possible locations from many points of view, including casual observations of the places where the greatest number of possible customers seem to pass. He then stations at each of these places an observer who, in a square on a tally-sheet ruled in a carefully predetermined manner, makes a mark as each person passes. After the observations have been completed and the marks in the various squares are counted, the manager is enabled to establish a number of facts pertinent to the problem such as the following: the average number of persons who pass during a day; the average who pass each hour of the day; the average number of men who pass each hour of the day; of women; of children; the number of office girls who pass during the lunch hour; etc. These group facts, discovered by recording and classifying the mass of unit facts, are of importance in helping him to decide a problem of business policy.

If a merchant sells hats for a season and keeps no record of sizes sold, he is at a loss to place precise orders for the next season. He may have a general impression that he had better place in stock more of a given size than of other sizes, but a "general impression" is not precision, control and economy in operation. On the other hand, if he has kept records, he may find he has sold 50 size $6\frac{1}{2}$; 150 size $6\frac{3}{4}$; 300 size 7; 500 size $7\frac{1}{4}$; 400 size $7\frac{1}{2}$; 150 size $7\frac{3}{4}$; etc.—in all some 1600 hats. He estimates that his sales will amount to 2000 hats next season and divides the order for that number in the ratios with respect to size, of .5, 1.5, 3, 5, 4, 1.5, etc., and feels certain that he is forecasting his market with precision.

These illustrations should suggest to the reader the nature, the purpose and the methods of statistics in business. An illustration might have been used in which facts are entered on "forms" in an office, as documents resulting from operations and carrying different kinds of data (units of product; wages; sales; complaints; prices of materials; etc.) pass through the office. The magnitude of the business, the volume of the data, the number observed, recorded, classified, compared and otherwise handled, make no difference.

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*Nature and Purpose of Statistics.* A "fact" the relations of which are obscured has little or no significance. A single person passing the observer in the first illustration has no meaning or importance. Related to the problem of locating the store he begins to assume importance. Related to that problem as one person in an aggregate of persons passing the observer, he becomes *in this relationship* of great importance; but by becoming part of an aggregate of persons he is transformed into one of a mass of data so numerous as to confuse the mind, which is limited in its processes of observing, valuing, remembering and comparing separate experiences which come to it casually. The mind is unable to grasp the significance of larger summarizing facts behind or contained in the mass. Yet there are summarizing facts there, facts which result from the bringing together and analysis of the aggregate. Statistics is the science and the art of handling aggregates of facts—observing, enumerating, recording, classifying and otherwise systematically treating them—so that other "master" facts or principles or laws lying behind or contained in the aggregate are made comprehensible to the mind and become, along with the results of other methods of investigation, data for reasoning, the drawing of conclusions, the making of decisions and the determination of policy.

*Statistical Methods.* There have been developed many devices for the summarizing and analysis of statistical data such as the *per cent* and the *arithmetic average.* No manager of a plant of any size, for instance, could carry in his head the number of hirings and separations for two or three years. Yet if recorded these facts can be classified and summarized through the medium of coefficients, and the mind can easily reason in terms of the coefficients, which sum up group facts behind the unit facts. That labor turnover was 43 per cent in 1918 and 27 per cent in

1919 is the statement of two significant, comprehensible, summarizing facts yielded by proper treatment of a large number of accumulated unit facts, which considered individually had relatively little significance. The business statistician does not need, in the present stage of the development of the art of statistics in business, to go into such refinements of statistical method as are necessary for, let us say, the biologist, or even a department of public health. Extreme refinements of method yield only a fictitious accuracy when the preceding steps of observation, enumeration and classification are lacking in precision, or the data are not in great volume, which is usually the case in a business. The accuracy of a chain of reasoning can be no greater than its weakest link.

But if refinement of method in the mathematical treatment of data is unnecessary in the use of statistics in business, too great care cannot be exercised with respect to the collection of data. The summarized data become premises for reasoning, and to the extent that they have been incorrectly labeled and classified in the process of collection and recording, the reasoning and the conclusions of which they become the basis are unreliable. The skilled statistician wants to know how the data were collected—are they complete or a good sample of the mass of unit facts under consideration; is classification exact; are compared averages the averages of like things; etc.? The critical stage in statistical investigation is the first stage; the determination of the purpose of the investigation; precise definitions of different kinds of unit facts to be recorded; the careful recording, classification and summarizing of these unit facts in accordance with the precise definitions. From that stage on statistical processes are simple. It is in that stage that the difficulties lie and the errors are made.

*Homogeneity of Statistical Units.* That the original units of observation and record should be homogeneous is the primary rule of all worth-while statistical effort. This depends upon careful definitions. If definitions are not exact, dissimilar things will be enumerated under the same head by different observers or recorders, homogeneity will not exist and the summaries and averages will not be comparable. One recorder might include under "wages" some payments that another includes under "salaries." One might include under "worked materials" some things that another includes under "stores." One might include in the length of time it takes to perform an operation, the time between the start and finish of the operation that the machine is idle; another might not. The statistics of labor turnover published today are generally incomparable because of this error. In one plant "separations" is made the basis of computation; in another "hirings." In one plant the working force may be increasing, in another decreasing; neither "separations" nor "hirings" has the same significance in the one as in the other. Different unit facts are classified under the same head and the law of homogeneity is violated. Resultant averages are not comparable.

The primary statistical fact—statistical unit—observed and recorded should not be a compound fact. To use a chemical analogy, it should be an element. Compounds can be built up, if desired, by bringing elements together. The recording and analysis of homogeneous primary facts require planning ability and cost money, but they are the only facts worth recording. Later attention will be directed to the use of mechanical devices which make possible the recording and classifying of unit facts at a reasonable cost.

*Statistics in Business.* The application of statistics was first developed by governments and quasi-public institutions in the study of social phenomena and was then developed and carried to the highest degree of perfection in technical method by the biologists in the study of the laws of heredity. In these fields the data have always been so numerous as to compel statistical treatment, and in these fields great discoveries have been made by the statistical method of investigation. Among business institutions the first to use statistical methods were the insurance companies, railroads and similar businesses, the data of whose operations are voluminous and usable only when statistically handled. With the broadening of markets and the increase in the size and in the volume of business of other industrial institutions, the use of statistics increased as an aid in establishing standards, and in interpreting facts as a basis for the forecasting of tendencies and the determination of policies. Today there are few large business institutions in the United States—manufacturing or distributive—which do not have statistical departments, and regard for the statistical function in smaller institutions is increasing with great rapidity. There is scarcely a business of any size which could not use statistics to advantage, the size of the "statistical department" being purely a problem in overhead cost to be viewed in the light of probable returns. There is an advertising company which carries an immense and costly statistical overhead, but the result of the work of that department has made the company impregnable in competition; its clients have confidence in its advice. I know of a small distributing house in which a young graduate of a school of business administration, along with other duties and on his own initiative, began to record, classify and analyze data according to the statistical method. In one year he proved "master facts behind the mass of unit facts" never before observed, and influenced purchase policy and sales policy—for the business he effected economies resulting from operations in accordance with better policies, and, for himself, proved himself worthy to be a branch manager. Between these two extremes may be found throughout business a great variety of methods of utilizing statistics in investigation.

*The Practical Objects of Statistics in Business.* The principal objectives of the use of statistics in business are:

1. To ascertain inner, controlling, master facts which cannot be ascertained by casual observation of the complex mass of obvious facts which constitute the experience of the business and in which they are contained. The sales manager about to undertake a sales campaign, does not trust to chance or to casual observation more than is necessary. He investigates and analyzes characteristics of the consuming public in a market—estimates among other things their probable demand for and capacity to purchase the particular commodity he proposes to introduce, and the kind of advertising methods to which the purchasers of that market are most likely to react. The utility corporation analyzes statistically a growing suburb before it determines its policy of extension and capital investment. The merchandise and credit managers of a wholesale distributing house estimate the purchasing power of a region, through the statistical analysis of crop and other governing conditions, before determining policy with respect to a season's business. The manager of a retail store may analyze sales of different articles by sizes, seasons,

etc., in order to determine a quality, quantity and seasonal schedule of purchases, thereby adjusting orders to probable turnover.

2. To determine standards by which to value and guide *current* performance and in terms of which to estimate *future* performance. The merchandise manager of a department store receives each morning a summary sheet showing sales of the preceding day compared with sales of the same day the year before; cumulative sales of the month to date compared with cumulative sales of the corresponding period of the year before and with estimates for the current month; cumulative sales of the year to date compared with those of the corresponding year before, and so on. He can ascertain at a glance whether sales are going well; if they are not he may institute at once a special sales campaign. Likewise any business selling commodities or services. A production manager time-studies operations under different conditions and with different materials and methods, and by statistical treatment of the data establishes several standards: standards of conditions; of materials; of methods; of performance. He can then value and guide current performance and can estimate with precision future performance. He may keep his record in terms of units of output and in terms of units of cost. Cost units are no different from other units in statistical treatment. A telephone company analyzes statistical records of calls and establishes a standard of performance for an operator or for a system and on the basis of these standards can determine whether an operator is efficient or a system is approaching the volume of business for which it will be inadequate, requiring extension or replacement. The electric light or telephone or other similar company, by statistical records determines the hours, the days and other seasons when its various peak loads are bound to occur, and establishes operating policy accordingly. A supply division of the army or navy, by statistical methods, determines a procurement and delivery schedule for an army of a given size under predetermined conditions of activity, and by similar statistical methods determines from day to day whether the schedule is being observed.

The use of statistics in determining such standards for measuring current performance and estimating future performance is one of the latest developments of the use of statistics in business, offers one of the most profitable instruments for improvement in managerial methods, and unfortunately involves some of the greatest dangers of misuse. These misuses are prevalent in current practice. The first is the error of so organizing the function of recording, classifying and analyzing data as to secure the returns too late for use in controlling *current* operations, in which case the statistics are but records of past performance and have so limited a usefulness as to raise the question whether they are worth the cost of collection. The second error is that the units of enumeration may not be homogeneous, and to the extent that they are not, their value in the control of current practice or of forecasting future performance is invalidated. A time (statistical unit) of a performance by method A under condition B with material C on machine D is not homogeneous with a time resulting from a study when either A, B, C, or D is different. Three complaints, one resulting from disturbed mail service, one resulting from a defect in the goods, and one resulting from discourtesy of a clerk, are not homogeneous. To record them simply as "complaints" may enable a manager to enjoy the sensation that something is wrong, but will give no precise information which will enable him to control the situation and remedy the causes. The third error in the use of statistics in establishing standards and measuring performance is that the units of statistical record may not correspond to the units of the operating processes. This is a common error, for only too frequently the statistical function is not recognized as a production function, and the statistical department and methods are developed independently of the production department and methods. The analysis of processes by the production manager for the purposes of operating control is different from that of the statistical department for purposes of record, with the result that the statistics fail to be useful to the production manager. The same authority that approves the establishment of production methods should approve the establishment of statistical methods in so far as they are concerned with statistics of operation, in order to insure that the units of statistical record shall be identical with the unit process of production. Furthermore, the only way of assuring such correspondence is to make the "papers" which control production the original documents from which statistical data are drawn.

3. To establish series of facts which suggest tendencies, or permit comparisons which suggest causal relations, or at least correlation, between series. Time curves may be plotted showing sales—by salesmen, by territories, by articles, etc. By these the sales manager may keep informed concerning the sales tendency in a territory, of a commodity, or of a salesman. Comparison of these curves may permit the manager to determine that the salesman whose record of gain is best is concentrating on leaders which yield small profit while a salesman whose record for gain is not so good may be selling a wider variety of articles, thereby laying the foundation of a better long-run business in his territory. Curves of wages paid, hours of work, output per man, separations, hirings, cases of discipline, idle machine time, etc., may be compared and correlations proved—i. e., it may be observed that when one curve shows a particular tendency another shows a similar or different particular tendency. The establishment of such correlations permits more accurate forecasting of results and the establishment of more dependable policies. There is opportunity for the development of statistics of this kind in every business and the results may be considerable, but in no two businesses is it the same, and each is a field for special study.

There are many data pertaining to the social-industrial conditions in which a business is carried on, of importance to every manager in determining policy, but to collect, classify and analyze these would be too great a burden of cost for one business. We have in mind data relating to crop conditions, prices of basic materials of industry, bank clearings, commercial failures, etc., which when consolidated and compared throw light on general business conditions. Statistics of this sort are now available through statistical service agencies,[2] and it is not necessary for the individual business to secure them. But there remains a considerable number of special "lines" of statistics, especially pertinent to its materials, products and markets, which a business may profitably maintain.

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[2] For instance, services rendered by Roger Babson, Inc., and by the economic research bureau associated with the Harvard Graduate School of Business Administration.

4. To determine laws governing industrial operations. A comparison of different lines of statistics might disclose such relations as to prove principles to which the term "law" could properly be applied. Extraordinarily large numbers of homogeneous data are essential to the establishment of laws. These are seldom available in the records of a single industrial concern. The most noteworthy case of the scientifically precise observation, recording, classification, analysis and general statistical treatment of industrial data which has led to the formulation of laws, was the study by Mr. Taylor and his associates which led to the discovery of the laws of metal-cutting, which revolutionized that art. The hope of the discovery of laws governing industrial operations depends upon the pooling of the statistical interests of many concerns—coöperative statistics which will yield homogeneous data in great volume.

*Cost Accounting.* Cost accounting is a specialized phase of statistics. It is statistics in which the statistical units are monetary values—cents, pence, centimes. The principles of the statistical treatment of these units are no different from the principles of the treatment of other units—pounds, gallons, bushels. Cost statistics are subject to every law governing general statistics, and most of the troubles in cost accounting are the result of disregard of statistical laws. Cost statistics should be derived from operating "papers"; these papers should flow in a constant stream over the desks of cost and other statistical clerks and keep the record "up to the day" as a basis for *immediate control* of operations; the cost unit data should coincide with or dovetail into the unit data of other phases of statistics; they should be homogeneous. Costs which have been derived in accordance with these principles are worth the expense; costs which are but the record of past events—records got up too late to influence current action and in classes which do not correspond to classes of operations in the shop—are seldom worth the expense of collection.

*Mechanical Devices.* The principal obstacle which is met in the development of the cost and general statistical methods here recommended is the clerical expense involved. The expense of copying data from operating forms on to special statistical department forms, and then of computations and tabulation, is frequently prohibitive. But it is possible to adapt the cards of the standard sorting and tabulating machines for use as original operation orders, and they become, after their use in operation, the data cards of the cost and other statistical clerks. One firm at least[3] has economically secured extraordinary results in this way. The economy resulting from the use of mechanical devices and the exceptional minuteness and value of the costs and other statistics derived by this firm, are due to the fact that the statistical methods are tied up with—are a function of—the good management methods.

*Graphical Records.* Graphical forms of recording statistical data—especially summarizing data—have been found desirable by all well-organized statistical departments. The simple curve is the most useful graphical device. It has properties, not characteristic of tables, which aid the mind in detecting, through the eye, tendencies and relations. There are firms which plot and keep posted daily as many as 1500 or 2000 curves.

*The Statistical Department.* The statistical function should be performed by specialized clerks trained in the methods and in the manipulation of mechanical devices and in statistical operations. The manager of the department should be above all a man of imagination and of analytical ability. He should suggest, but he alone should not determine what statistics should be kept and what objectives aimed at. Statistics are for use, not for file. The executive and the administrative officers are the users. They should participate in determining what statistics should be kept. Their several desires should be dovetailed into one organic body of statistical records, coördinated by the general manager through the management engineer.

*General Information: A Supplementary Function.* Statistics is a method of investigation, of securing information. It is logical therefore that other methods of securing information than the statistical should be assumed by the statistical department. Special libraries, including files of books, pamphlets, trade periodicals and newspaper-clippings, of which all the important contents bearing on the business are indexed, are being developed by statistical departments. The department should take the initiative in bringing pertinent information to the attention of the administrative and executive officers; should establish its information service within the plant.

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[3] Day and Zimmerman, Philadelphia.

*Conclusion.* Statistical results secured in accordance with correct statistical principles and methods—related to operations, posted up to the day, based on homogeneous units—are as important to the well-managed manufacturing plant as are the sextant and the compass to the mariner. They permit the management to know at any moment *where it is* and to set its course. Statistics which yield only records of past events are of no more use than the *log* to the mariner; they do not assist one to shape one's course. Statistics are recorded, classified and analyzed experience. From this experience, so made available, principles may be derived to guide all who are concerned with the determination and execution of policies and with the direction of operations—directors and president, general manager, production and sales managers, employment manager and others according to their respective problems. More accurate forecasting of conditions will be possible and more precise control leading to desired results; more reliable forecasts of demand, more favorable buying, better selection and training of workers and retention of workers; more precise and dependable production methods; and a better schedule of production throughout the year.

# On the Technique of Manufacturing

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During recent years there has been a growing tendency to under-estimate the importance of mechanism or system in the field of management and to assume that something more or less vague and intangible—a spirit of coöperation, democracy in industry, the acceptance of certain fundamental principles or the adoption of sound policies—meet all of the requirements and will accomplish the objects of good management. It is true that Taylor himself was wont to emphasize the importance of what he termed the "essence of Scientific Management"—the four great principles which he stated as:

> The managers assume, for instance, the burden of gathering together all of the traditional knowledge which in the past has been possessed by the workmen and then of classifying, tabulating, and reducing this knowledge to rules, laws, and formulae which are immensely helpful to the workmen in doing their daily work. In addition to developing a *science* in this way, the management take on three other types of duties which involve new and heavy burdens for themselves.
>
> These new duties are grouped under four heads:—
>
> *First.* They develop a science for each element of a man's work, which replaces the old rule-of-thumb method.
>
> *Second.* They scientifically select and then train, teach, and develop the workman, whereas in the past he chose his own work and trained himself as best he could.
>
> *Third.* They heartily coöperate with the men so as to insure all of the work being done in accordance with the principles of the science which has been developed.
>
> *Fourth.* There is an almost equal division of the work and the responsibility between the management and the workmen. The management take over all work for which they are better fitted than the workmen, while in the past almost all of the work and the greater part of the responsibility were thrown upon the men.

While we must be careful not to mistake the form for the substance, nevertheless management is a practical matter and Taylor realized that without means being provided for the intelligent, consistent and continuous application of these principles they were of no more value than would be the principles of chemistry without a laboratory. It was he who developed step by step—not for the purpose of working out a "system," but as its necessity became pressing in his efforts to apply the principles he was evolving—a complete system of management with all of the elements coördinated and functioning as in a well built machine.

It is true and must be recognized that no one system for the application of the principles of Scientific Management can be devised that will meet the needs of all industries—nor indeed any two manufacturing establishments in the same industry. In every case the system must be designed or adapted in a greater or lesser degree to the individual business. The same raw materials or even manufactured parts may be used in the construction of widely differing products and likewise certain elements of a system designed for one business may be used with little or no change in working out a system for another and radically different business.

The planning and control of work, time study and functional foremanship (the latter, partly exercised in the shop and partly from within the planning department) comprise the principal features of the mechanism for the practical application of the principles cited.

The production of anything consists of three stages:

a. Determining *what* is to be produced—what materials are to be used and their disposition in the article to be produced. This is the function of the engineering or designing department.

b. Determining *how* it is to be produced and *when* the various steps incident to its production are to be taken. This is the function of the planning department.

c. Performing the physical work in accordance with the plans of the designing and planning departments. This is the function of the manufacturing department.

Obviously the planning department is the logical complement of the engineering or designing department. Briefly stated its functions are so to plan and control the processes of production that the personnel and the facilities of the plant, physical and financial, will be utilized to the best and fullest advantage, that the work will be done correctly and economically and that deliveries will be made on time.

In the planning department is assembled practically all of the clerical work which in a plant run under old style management

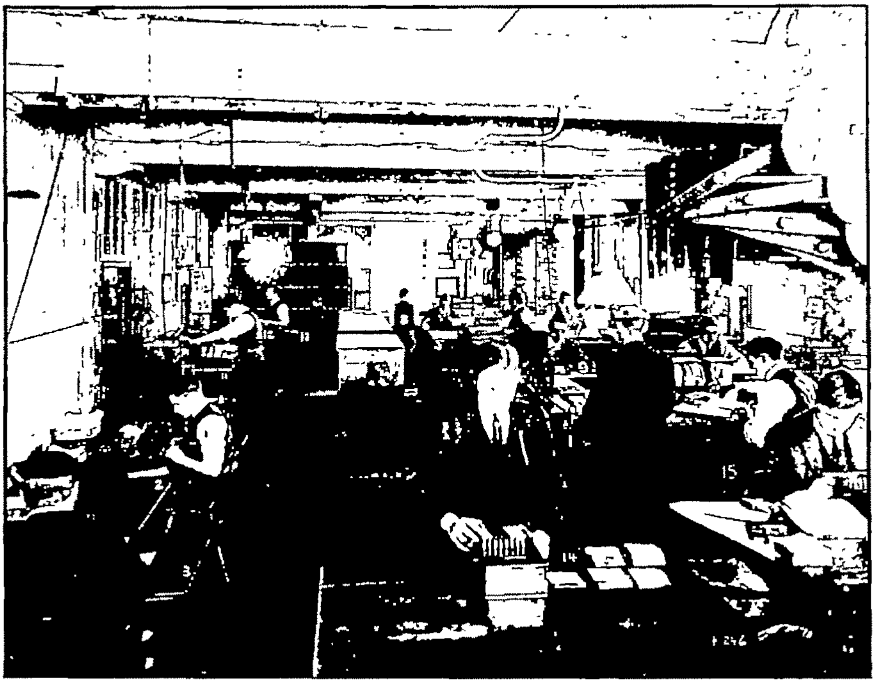

FIG. 1—THE PLANNING DEPARTMENT.

THE TABOR MANUFACTURING CO., TOOL BUILDERS, PHILADELPHIA.

1. Production clerk's and planning dept. order of work clerk's desk.
2 Typist—writing route charts, operation orders, time cards, etc.
3. Shop superintendent
5. Route clerk's desk
6. Foundry clerk (special materials clerk).
7. Balance of stores clerk
8. Clerk duplicating operation orders, time cards, inspection orders from originals written by typist (2. see above) and preparing (collating) route files.
9. Time study and instruction card desk. (Man with practical experience on right preparing instruction cards—clerk on left filling in time from tabulated data )
11. Recording and window clerk. (Files of active route sheets back of him.)
12. Shop order of work clerk (at bulletin board.)
13. Drawing & instruction card messenger (at drawing files.)
14.
15. } Pay roll and cost desk.

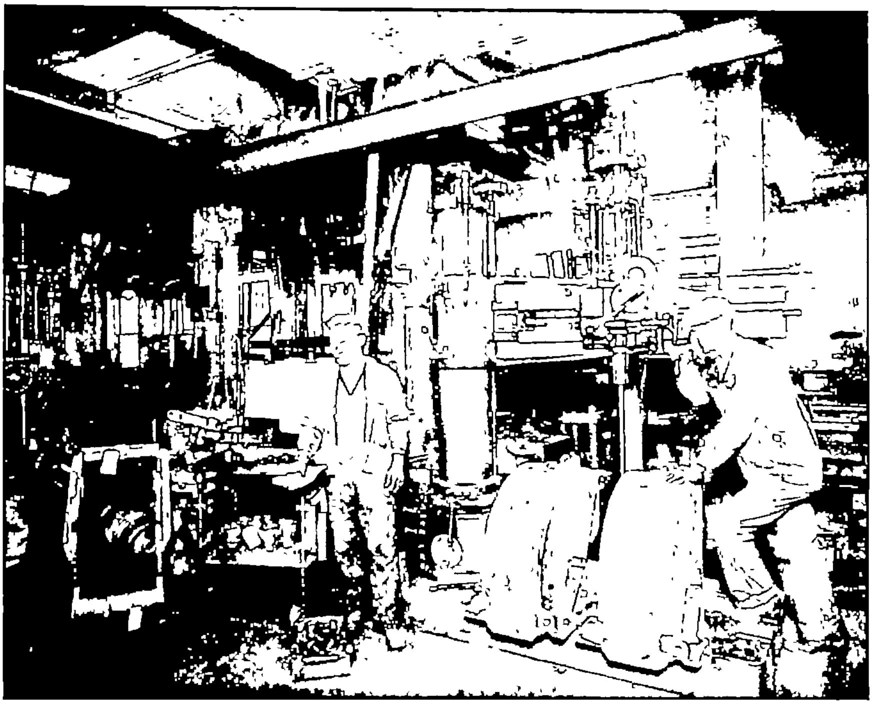

Fig. 2—Foreman Checking up Materials Required for the Next Job.

THE TABOR MFG. CO., TOOL BUILDERS, PHILADELPHIA, PA.

Fig. 3—Delivering Drawing, Tool List and Instruction Card to Machine.

IN THE SHOP

is done here and there in the manufacturing departments, either by clerks, the foremen or even the workmen themselves. It is the repository of all data and working records required for the planning and control of work done in the plant.

The planning department should be centrally located so as to be conveniently accessible to all other departments and particularly to the manufacturing departments which it serves, the store-room and the designing (or engineering) department. In many cases it has been found desirable to install means of rapid communication between the planning department and the shop and the store-room, such as pneumatic tubes or carriers for issuing time or job cards to operators, move orders, inspection orders, instruction cards, tool lists, etc. In some instances direct telephones to various stations enabling communication without going through an exchange may be desirable.

Furniture such as will be seen in the accompanying illustrations specially designed to meet the needs of the planning department should be provided for those purposes for which experience has shown ordinary commercial office furniture to be poorly suited.

The basic data required for the planning department should include:

a. *Data relating to Product and Materials*

Drawings and bills of materials of the product (or their equivalent which in some cases may take the form of samples or patterns).

Specifications for both the product and the materials entering thereinto. This class of data should cover all of the information with respect to the product that may be needed in planning or in its manufacture.

b. *Data relating to Plant Equipment*

Complete information with respect to each machine, its capacity, speeds, adjustments, classes of work or operations to which suited, location, etc. Similar data with respect to work places other than machines, tools and appliances, etc. This class of data should be so complete that work may be planned with a full knowledge of, and in accordance with the manufacturing facilities, in such a way as to make the best use of the plant and its equipment.

c. *Elementary Time Study Data*

"Unit times" covering all of the elementary operations entering into the processes of manufacture, the adjustments and operation of machines, the use of the various tools and appliances, allowances for fatigue, for changing time cards upon the completion of each job, for inexperience of new operators, for variations in quantities, etc. In short all of the data necessary to the compilation of detailed instruction cards for any operation to be performed indicating the method to be followed and the time that the job should take under the standard conditions that have been established.

There are also built up and maintained for products that have been manufactured files of route charts or diagrams, route sheets, instruction cards and tool lists which will be described further on.

The active records of the planning department consist principally of the progress sheets (or charts) and the route sheets on which the progress on the various orders in process of manufacture is recorded and the "Balance of Stores and Worked Materials" sheets (stock ledgers or perpetual inventory) which show for each item of purchased or manufactured materials carried in stock—the quantity on hand, the quantity on order but not yet received in stores, the quantity required for (apportioned but not yet issued to) manufacturing orders or shipping orders that have been issued and the balance available for use on future orders.

It will be seen that the planning department's activities fall within three broad classes:

a. The conduct of research work, establishing and maintaining standards and the compilation of data of a basic character, applicable to the manufacture of the plant's products.

b. Planning in advance the work to be done in producing the things called for by manufacturing orders.

c. Planning and controlling through suitable mechanism, the work done in the manufacturing departments in such a manner that the plant capacity will be used to the best possible advantage, that each workman will be kept adequately supplied with work of a character for which he is qualified and that each job or order will be completed in accordance with an established order of work (or schedule) meeting the requirements with respect to time of completion and delivery.

From this point perhaps it will be best to describe the processes that take place in the planning department from the time that a manufacturing order has been issued and the necessary drawings, bills of materials, specifications or samples provided, describing each stage in the process of planning and the manner in which the work is controlled as it progresses through the shop.

## ROUTING AND DUTIES OF THE ROUTE CLERK

The manufacturing order together with all data relating to design, etc., is turned over to the route clerk who plans in detail for each unit or article to be produced for the manufacturing order:

a. The quantities of each kind of material required for each different part.

b. Whether these materials are to be taken from stock on hand in the store-room or procured especially for the order.

c. Whether the part or article is something to be manufactured from material on hand or to be procured or is to be drawn from manufactured stock on hand in the store-room.

d. If the part or article is to be manufactured, the operations which must be performed in order to convert the primary material into the finished article, the sequence in which these operations must be taken up, the machine or work place best suited to the performance of each operation.

If the product called for by the manufacturing order consists of a number of parts to be assembled together after having been manufactured or drawn from the store-room, the route clerk prepares a diagram or route chart showing graphically the manner in which the various parts are to be assembled into groups or sub-assemblies and the manner in which the various groups or sub-assemblies are to be assembled to bring about the completed machine or article, the relation of the several parts and groups to each other, the relative importance of each part and group as a guide in determining the order in which the work should be prosecuted in the shop so as to have those parts requiring the greatest time to produce finished as nearly as possible simultaneously with all other parts. Likewise on the charts he shows all of the information previously described.

For each unit to be manufactured, that is to say for each part, for each group of parts to be assembled and for the assembling of the completed article, a route sheet is prepared giving the information above referred to in such a manner that the progress of the work may be recorded and regulated as it goes through the shop. He also causes to be prepared the orders on the store-room (stores issues) for the primary materials and stock parts.

It will be seen that the person performing this function must not only possess clerical ability but also be one who has had practical experience in the performance of the work being planned and that this knowledge must be supplemented by the necessary data relating to materials and manufacturing equipment. Usually he is selected from the ranks of the workmen or foremen.

Based upon the route sheets there are prepared by typists all of the orders relating to each of the several operations on each piece or assembled unit that will be required as the work progresses. These include:

a. *Move Orders* issued to men whose sole duty it is, on the orders of the planning department, to move materials from place to place in the shop.

b. *Time Cards* which are issued to the workmen at the start of each job and serve the purposes of recording progress of work on the route sheets, making up the pay roll and of cost keeping.

c. *Operation Orders* to be used in planning the work ahead for each of the machines and work places throughout the shop serving as an index to the detailed instruction cards and tool lists relating to the respective operations, indicating the machine at which the work is to be done and the time which it should take.

d. *Inspection Orders* which are issued to the inspector, in some cases for each operation, advising him of the start of each job in order that he may give the workmen such instruction as may be necessary to insure a proper understanding of the requirements as to accuracy, quality, etc., and that he may check the work up as it progresses to guard against carelessness or errors.

e. *Identification tags* to be attached to the various parts and materials.

The route sheets are attached to portfolios or to sheets of heavy paper containing a series of envelopes in which the move orders, time cards, operation orders, etc., referred to above and the instruction cards and tool lists for the various operations are placed in such a manner as to be readily accessible when wanted. The route sheets with their portfolios are later placed in suitable files indexed to facilitate finding any sheet desired.

### THE BALANCE OF STORES CLERK

The next step in the planning is to send the manufacturing order accompanied by its route sheets, stores and work materials, issues, etc., to the balance of stores clerk who will make sure that adequate provision has been made for the materials required either through their being on hand in the store-room or on order. He apportions to the order the quantities of each material required, subtracting it from the quantities shown to be available on the respective balance sheets and as the balance available falls as a result of apportionment to the minimum quantity established he issues requisitions on the purchasing agent for purchased materials or issues manufacturing orders for manufactured or worked material parts. Thus the stock is automatically maintained.

Later on as the material is actually withdrawn from the storeroom the balance of stores clerk also subtracts from the quantity shown to be on hand the materials issued.

The balance of stores clerk coöperates closely with the accounting department, his sheets carrying values as well as quantities are in fact details of the stores and manufactured product accounts. The minimum and ordering quantities are fixed with a view to economy in purchase and manufacture, to the maintenance of a stock which will meet the needs of manufacture without tying up more capital than is necessary and are revised as often as may be necessary to meet changing conditions.

### THE SPECIAL MATERIALS CLERK

In many businesses certain materials are not regularly carried in stock, but are procured especially for the order in connection with which they are to be used. This would be the case in a machine shop with respect to castings and forgings and in almost every industry there is a similar class of material. These materials require close following up in order that they may be procured without excessive delay, and consequently it becomes the duty of the special materials clerk to requisition and follow up all materials which the route clerk has indicated as falling within this category.

### TIME STUDY AND INSTRUCTION CARD MAN

The manufacturing order with its route sheets, etc., next is delivered to the time study and instruction card clerk whose duty it is to draw up for each operation an instruction card describing in detail just what the operation consists in, the method to be followed and the implements to be used, and to fill in for each one of the elementary operations making up the operation as a whole the time as shown by his elementary time study data.

The time study man in preparing an instruction card must have readily available complete information relating to each of the machines in the shop, and what tools and implements are available.

He must also have properly tabulated all of the elementary time units which may enter into work to be done. With this data and the drawings and specifications before him giving all of the information relating to the product to be worked upon, he prepares the instruction card for each operation enumerating every elementary step which he would take if he were to perform the operation himself. Where two or more methods may be followed, if there is any question as to which is the better from the standpoint of time, he may draw up roughly a card for each. Occasionally it may be found that an operation involves some new elements calling for the making of certain studies before the time and method for the job in question may be settled upon definitely.

Simultaneously with preparing the instruction card which of course must indicate any implements to be used, a tool list specifying them is prepared, and should it be found that any new tools are required, the person preparing the instruction card must arrange for their purchase or manufacture. In short, the instruction card writer must assure himself that all of the conditions upon which he bases the method and time prescribed will exist when the work is undertaken.

Of course, it is not necessary in every instance to prepare a new instruction card for each operation on each manufacturing order passing through the planning department. Many jobs are simply repetitions for which instruction cards already exist. Frequently it is found that, while an article to be manufactured is new, some of the component parts are identical with those used in other products, or that they differ only in some degree, permitting the use of existing instruction cards with such changes as are called for by the difference in the part or article.

These cards show in summarized form the time for preparation at the start of the job, for cleaning up at the finish, the time per unit or piece, and the percentages of allowance for fatigue, inertia, etc., which may vary with the number of pieces in the lot. From this information the time for each operation is computed and entered on the time cards, operation orders and route sheets.

The time study man and the route clerk must coöperate closely with each other. The time study man is also frequently consulted by the designing department and in fact in many businesses no new article is added to the line until it has been submitted to the time study man and the cost determined on a basis of his figures as to the amount of work involved. Until active coöperation is established between the planning department and the designing department of a business it may be said that the full benefits of Scientific Management are not realized.

With the placing of the completed route sheets together with their operation orders, time cards, instruction orders, tags to be attached to the material for identification, etc., in the route files the work of planning *what is to be done* may be said to be completed and we now enter into the second stage of the planning department's activities—the planning of *when* work is to be done. This is carried on by the production clerk (sometimes called production superintendent or production manager) with certain assistants known as the planning department order of work clerk and the shop order of work clerk.

It is the function of the production clerk to see that work is completed in such time as to satisfy the needs of the sales department or in the case of stock parts, the needs of the shop. It is also his duty to see that all machines and work places in the shop are adequately supplied with work so as to keep the force continuously employed. In this matter he may be regarded as the agent of the employes and in case of any shortage of work it is up to him to bring the matter to the attention of the manager or the sales department in sufficient time to permit of taking such action as may be possible to supply the deficiency. The ultimate responsibility for keeping the shop uniformly busy and for maintaining a proper balance of the various classes of work lies with the sales department, but it is the production clerk upon whom the sales department must depend for the information necessary to accomplish this end. This the production clerk does by maintaining what is termed a "balance of work" showing the amount of work of each class ahead of the shop, sub-divided by classes of machines or operations and further by time periods. This is kept up by adding the time represented by manufacturing orders as they are entered, and subtracting as the work is performed.

In cases where the work ahead exceeds the capacity of the plant it is the duty of the production clerk to bring the matter to the attention of the manager and to follow it up and see that adequate provision is made to take care of the excess, either through the addition of equipment, working over-time or having some of the work done elsewhere.

Too much emphasis cannot be laid upon this function of the planning department. The successful outcome of the adoption of Scientific Management is largely dependent upon keeping the shop uniformly busy assuring all workers of steady employment. This is of course equally important under any form of management, but under the old type of management particularly in plants where piece work prevails—if it is realized at all—irregularity in the flow of work, dull seasons and periodic unemployment are too often regarded as conditions inherent to the business over which the management has no control and for which it feels little or no responsibility. Once a planning department has been established and is properly functioning and particularly where the task and bonus system of payment based upon time study supplants the old scheme of piece work, the condition cannot be ignored and the management's responsibilities are forcibly and continously brought to its attention.

The production clerk arranges the "order of work" or schedule indicating the order of preference to be given to each of the various manufacturing orders started out. This schedule must of course take into account the amount of work to be done and the time when the order must be finished. It serves as a guide to the planning department order of work clerk in arranging for the progress of an order through the various stages of planning and also for the shop order of work clerk in starting orders out in the shop and in laying out the work ahead for each of the machines and work places. The production clerk must each day check up the progress being made on the various manufacturing orders going through the planning department and in the shop to assure himself that his assistants are correctly following out his instructions. He must also take care of the exceptional or emergency orders coming in from time to time and instruct his assistants as to the action to be taken where things have not worked out as planned.

### THE PLANNING DEPARTMENT ORDER OF WORK CLERK

While strictly speaking the planning department has no one person at its head, that is in the sense of the old time boss of a department, the planning department order of work clerk may in a certain measure be regarded as being its head. He is responsible for work proceeding through the planning department with-

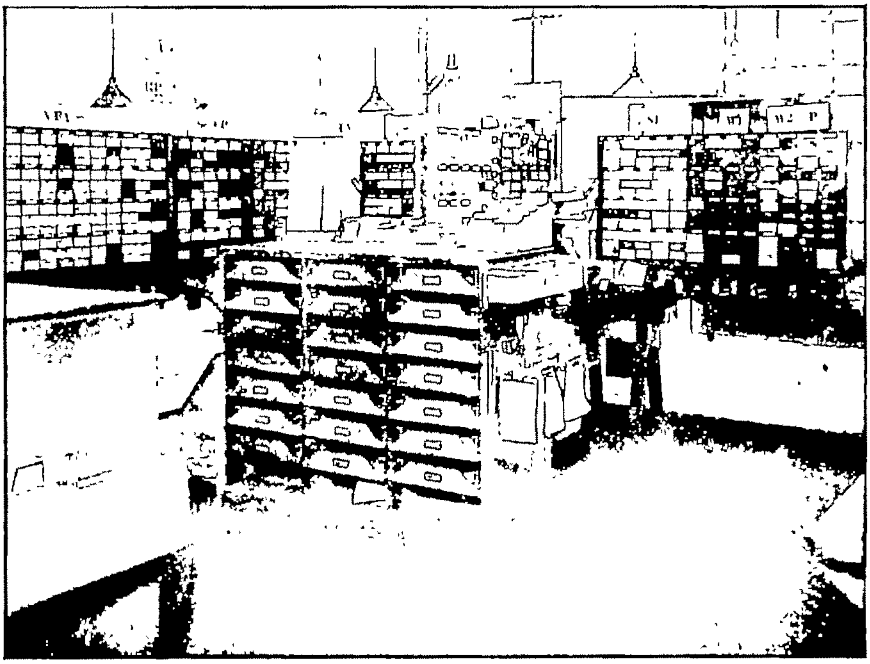

FIG. 4—BULLETIN BOARDS AND ROUTE FILES.

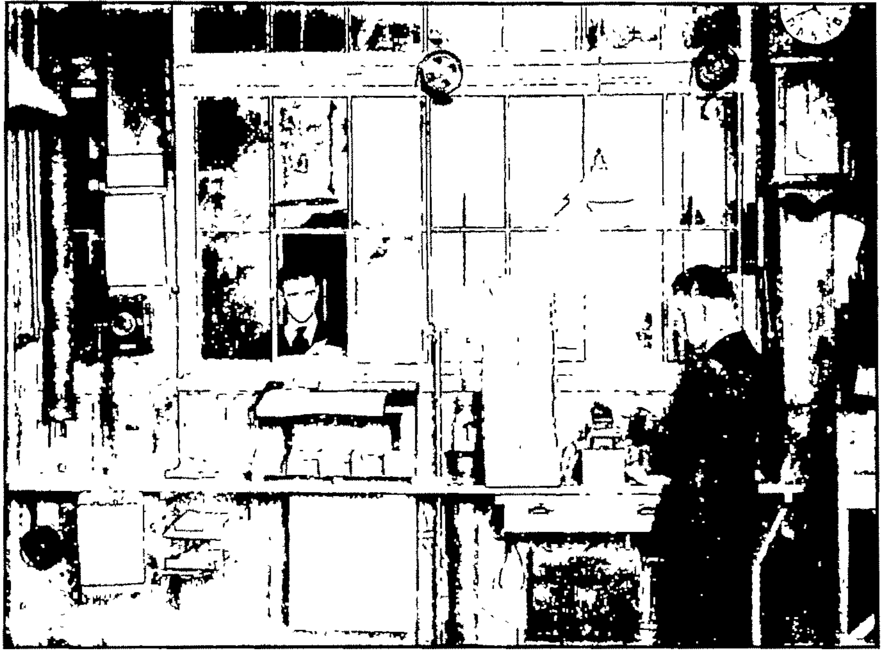

FIG. 5—WINDOW FOR CHANGING TIME CARDS, ETC.

THE PLANNING DEPARTMENT

HERRMANN, AUKAM AND CO., HANDKERCHIEF MANUFACTURERS, LEBANON, PA.

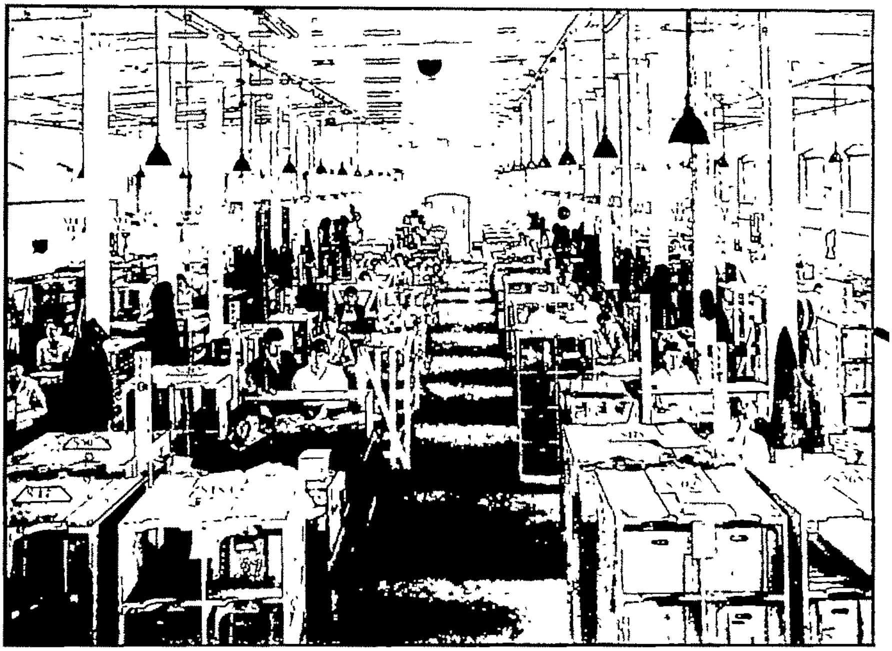

FIG. 6—A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE

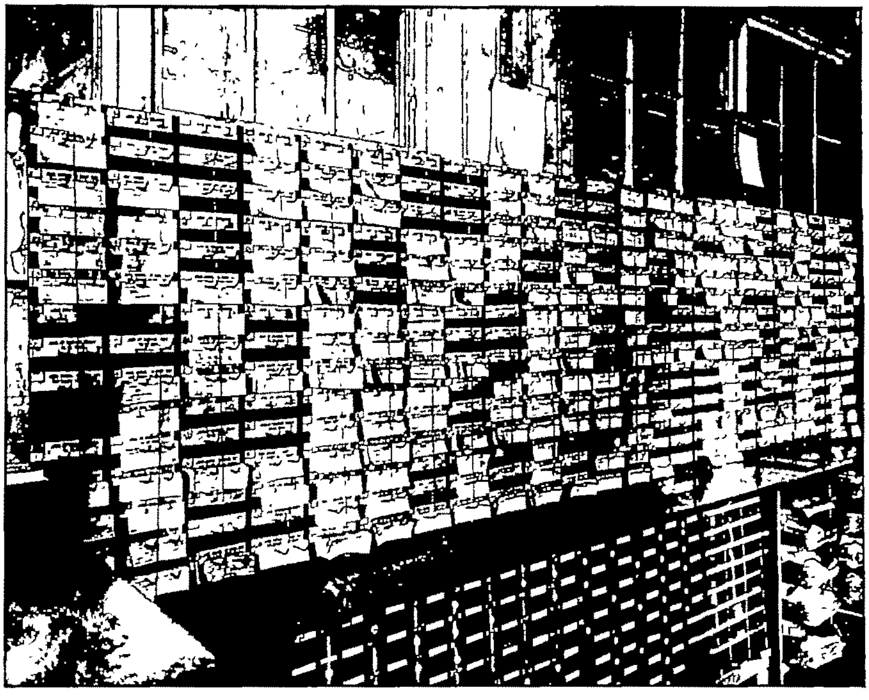

FIG. 7—PLANNING ROOM BULLETIN BOARD.

NOTE THE IDLE MACHINES

ROUTINE, YES, BUT NOT RED TAPE

out delay, for the work of each of the functions being kept up to date and in case of any failure to do so it lies with him to initiate and follow up such action as may be necessary to correct the trouble. Naturally he cannot be responsible for the quality of the work done by the route clerk or the time study man nor give them orders as to *how* work shall be planned, but he is responsible for seeing that these and all other functions in the planning department are adequately manned and that the personnel attend to business.

He must indicate to each of the people in the planning department the order in which they are to undertake the work ahead of them and he must advise them as to the time when each order must be completed so far as their respective part of the planning is concerned. He must maintain such records as will enable him at any time to locate any order that is going through the planning department and he must see that orders move from one planning function to another without delay. In addition to the follow up manufacturing orders going through the planning department, he must also look after the planning for the correction of any damaged or defective work reported by the inspectors as well as for the planning of any changes in work already in process.

## SHOP ORDER OF WORK CLERK

The shop order of work clerk really controls the operation of the shop, the mechanism through which he does this being the bulletin board, and the route files. He has as assistants, the window clerk, who receives time cards, move orders and inspection orders as work progresses and issues to the workmen, movemen and inspectors these orders for their next jobs; the recording clerk, who upon receipt of a time card, move order or inspection order, pertaining to work that has been done indicates the progress by checking on the appropriate route sheet, removes the operation order for finished work from the bulletin board, issues through the window clerk the time cards for jobs to be started, the move orders for jobs that have been finished and inspected, inspection orders for jobs started, etc. He also has an assistant generally termed the messenger, who delivers to workmen, the drawings, specifications, samples or other information as well as instruction cards and tool lists pertaining to work ahead. (In a plant manufacturing a limited line of product where the same jobs are frequently repeated this sort of information is maintained in the shop where it is accessible to the operators and functional foremen of the section or department to which it pertains and is not issued from the planning department for each individual job as is the case in a plant where a large variety of work infrequently repeated is done.)

On starting an order out in the shop, the shop order of work clerk arranges the operation orders for the first operations (on the parts for which material is available) on the bulletin board for the machines or work places concerned, in the order indicated by his order of work or schedule, with respect to other jobs already ahead of the machines, or work places in question. He also sees that the moving of materials as well as the work of the inspectors is controlled in accordance with the order of work and kept up to date. As jobs progress from one operation to another he arranges on the bulletin board, the operation orders for each successive step in accordance with the order of work.

Another important duty of the shop order of work clerk is to check up or to follow up through the route sheets the progress of work on all manufacturing orders, assuring himself that they are progressing at such a rate as will insure their completion in their proper order and by the time required; to bring to light any cases where the lack of materials or tools have prevented the progress of work, and above all to detect any cases where through error delays have occurred, or where the operation orders for work have not been arranged on the bulletin board in accordance with the order of work. In every instance where he finds any condition which is not right he must initiate and follow up the necessary action to correct the trouble.

He is responsible for seeing that each machine or work place is kept properly supplied with work and for bringing to the attention of the production clerk any case where there is an excess or a shortage. In cases of break-downs of machinery or anything going wrong he must see that whatever action may be necessary is taken to correct the trouble.

## TIME STUDY

There is probably no branch of Scientific Management more interesting or which has been more misunderstood and misapplied than Time Study. While time study is most often thought of as a means to determining the time in which work should be accomplished and as a basis for accurately setting piece rates or tasks, its greatest value and importance is in "the development of an art or science"—which Mr. Taylor stated as the first principle of Scientific Management. This includes effecting improvements in processes, methods, implements, machinery and materials—all essential to increasing production—establishing and maintaining for the workers such improved conditions as standards.

It was with time-study that Mr. Taylor started to develop what has since become known as the Taylor System or Scientific Management. The invention of elementary time study as a result of his efforts to set piece rates which would be fair in every respect, both to the worker and the employer, has been interestingly described by Mr. Taylor in his paper *A Piece Rate System* presented before the American Society of Mechanical Engineers in 1895.

It soon developed, however, as Mr. Taylor attempted to apply through his differential piece rate system the time studies made at Midvale that something more was required. It became evident that if the work was to be done in the time set that in every instance the workman upon finishing one job must have the material ready at his machine or his work place for his next job. To meet this need there were developed through a period of years what are now known as the routing and order of work functions and the mechanism described in the Chapter on the Planning Department.

Mr. Taylor next found that he must eliminate all causes of uncertainty as to time required to do each job, such as lay in the time it took the workmen to get together the necessary tools for each job and to grind cutting tools. He found that the tools as ground by the workmen varied greatly in their effectiveness, that is in the depths of cuts, the feeds and speeds at which they might be run. These things led to the standardization of tools used, their being kept in a tool-room from which the workman could depend upon getting without delay any tool that he might require and upon its being in first class condition. The invention of high speed steel, the Taylor-White process for its treatment, automatic tool grinders for lathe and planer tools and the slide rules perfected by Mr. Carl G. Barth were also the outcome of these efforts.

Still another source of delay which had to be overcome if the workmen might proceed with certainty of completing their work in the time set lay in the leather belts driving the machines. Mr. Taylor found that if he were to specify feed, speed and depths of cut to be taken he must establish conditions which would insure the machine being able to pull the cut prescribed and also that the workmen must be free from the annoyance and delay incident to belts breaking and having to be repaired while a job was in process. The manner in which this difficulty was overcome has been described in Mr. Taylor's *Notes on Belting*, a paper presented before the American Society of Mechanical Engineers in 1893. It was similarly found that the machines themselves must be maintained in first class condition, as they were when the time studies were made; this led to the development of a maintenance system and the establishment of the function of the repair boss, whose duty it was not only to repair breakdowns if they did occur, but as a result of periodic inspections, adjustments and minor repairs to detect and correct troubles before they had progressed far enough to cause a breakdown or to impede production.

In work of a varied nature, such as one finds in a machine shop, the various elements entering into the performance of all work may be studied one at a time independently of any particular job or operation. For example, the doing of any machine job consists of:

a. The handling of the materials, that is putting them in and out of the machine, etc.

b. The adjustments of the machine.

c. The use of implements, accessory to the machine; that is the handling of tools, putting them in and setting them, taking them out, measuring, etc.

d. The actual cutting of the metal; a mathematical problem which may be determined from tables or slide rules as described in Mr. Taylor's paper *On the Art of Cutting Metals.*

Let us suppose that we are about to make the time studies necessary to establish tasks in a machine shop.

Our first step would be to take up the machines one by one making time studies of each of the adjustments of which the machine is capable. On a lathe this would include the time for shifting the cone belt from one speed to another. We would have a skilled mechanic repeatedly shift the belt from the first to the second cone, from the second to the third cone, etc., going through the entire range of possible changes. Starting and stopping the machine, putting in and taking out the back gear, moving the carriage from one position to another, moving the cross slide in or out, would each be studied in turn. So we would go through all of the possible adjustments, the workmen repeating each adjustment a sufficient number of times to establish the standard elementary time unit.

Having equipped our tool room with standard tools we would take each tool in turn and make a study of all of the uses to which it might be put. For example, in connection with twist drills we would study the time necessary to select from an assortment of drills such as would be provided for a job, a drill of a given size, to put this drill in the spindle of the machine, the time to remove the drill from the spindle and place it back on the tool stand. This would be repeated a sufficient number of times in connection with each size and kind of drill.

In making studies of this sort many causes of delay or uncertainty as to the time required for an elementary operation would develop. For example, it was found in making studies of the handling time for twist drills that it required a greater amount of time for the workman to assure himself that he had a drill of the size called for than it did to perform all of the rest of the elementary operation. This was due to the fact that the makers stamped the size on the drills in small, difficultly read figures placed upside down so that they must be read with the shank toward the workman, necessitating his turning the drill first to read the size and again to bring it in position for placing in the spindle. To remedy this the practice was established of filing a flat spot on the shank of every drill, on which was stamped the size in large, easily read figures, with the result that irregularity in the time required to select the drill and verify the size was eliminated and considerable saving in time effected. It is in the great multiplicity of little savings such as this that lie the gains effected as a result of time study.

The time for handling materials in machine shop work presents greater difficulty in its determination and tabulation owing to the great variety of shapes, volumes and weights of castings and forgings, but reasonably accurate figures may be established, The importance and difficulty attending tabulation of the elementary time study data in such a manner as to make it available and directly applicable in establishing the time for any new job that may come along is perhaps greater than is generally realized. It is perhaps more difficult than the making of the studies. While in an engine lathe an infinite number of different jobs may be done, they all consist of different combinations of identical elementary operations. For example, the speed must be changed perhaps several times. On a given machine it will take the same time to change from the first speed to the second speed, no matter what the job may be. In the case of work carried on centers in almost every job a carrier or dog must be put on. For the same size carrier (assuming it is in first class condition), the time will be the same no matter what the job may be. The putting in and taking out of cutting tools is the same for a given tool irrespective of what the job may be; the time taken to set a pair of calipers and to try the size of the work will be the same for a given diameter no matter what the job is.

In order to make the time study data applicable to the entire range of work which may be done in the shop and to any new work which may be undertaken, the studies of the handling time relating specifically to the machines are tabulated, classified and indexed under the symbols and numbers of the machines to which they apply. The studies of the handling time relating to tools or implements are tabulated, classified and indexed under the symbols and sizes of the tools to which they pertain, and so on. In making up instruction cards the time for the various elements is selected from the tabulated elementary time units.

In the same way handling time for the simpler industries must be taken in elementary form and so tabulated and indexed as to make it available for the establishment of the task time on any new style or size of product that may be introduced. An essay consists of the twenty six letters of the alphabet combined to form words and the words combined to form sentences. Elementary operations (units) are comparable to the letters of the alphabet, small groups of elements frequently used together are comparable to words and the combinations making up a job to sentences and paragraphs.

In the simpler repetitive industries of which the manufacture of handkerchiefs is typical, where an operator performs a single elementary operation repeatedly, the studies are usually made of the cycles of elements comprised in the performance of each operation.

The importance of time study in the development of an art or science—and an art or science may be developed in even the simplest kind of work—is brought out by the following typical illustration describing an effort to establish the task and bonus time for machine ironing handkerchiefs. It was easy enough to determine the time necessary for picking up a dampened handkerchief and passing it through the mangle, but it was found that in some cases a handkerchief would be properly finished with a single pass while in others it required two or even three passes before it came out properly ironed and finished. The causes for this irregularity lay partially in the fact that the several machines varied as much as thirty per cent in the speed at which they ran and that the pressure of the steam used for heating the mangles varied greatly from time to time during the day and consequently the temperature of the drum varied. There were also imperfections in the material wrapped around the drum. The greatest cause of irregularity, however, lay in the fact that the handkerchiefs were not uniformly dampened, one method of dampening being to hold them in a fine spray of water in a tub; the length of time they were held in the spray being a matter for the operator's judgment. Another method was to soak a long strip of cotton cloth in water, wring it out by hand and then place the handkerchiefs in packs of one dozen between folds of the dampened cloth, permitting them to remain until the moisture had diffused itself throughout the entire pack.

Investigation showed that the secret of success lay in first putting into the handkerchiefs the *right amount* of water, for which a special machine was developed; second, permitting them to stand in an air-tight closet long enough to diffuse the water evenly through each handkerchief; third, not permitting them to stand long enough before ironing to give off an amount of this water which would result in imperfect ironing. These factors were determined for each kind, weave and finish of cloth by experiments extending over several months.

In connection with this operation it was also found that in the former practice of having one girl continuously feed the handkerchiefs into the machine with a less skilled and lower paid assistant on the other side receiving and placing them in piles, the operators could not accomplish their tasks with any degree of regularity. The reason was that the feeding of the handkerchiefs was much more trying and more difficult than the receiving and piling, as the operator had to stand continuously close to the hot drum of the machine, while the operator on the other side might sit down not so close to the heat. Consequently while an operator might for a certain period of time easily feed handkerchiefs at the rate shown to be possible by the time studies, if she kept at it continuously her production fell off. This was remedied through teaching the operators who formerly did nothing but receive and pile the handkerchiefs the operation of feeding and having the operators change off, the feeder becoming the receiver and vice versa, at sufficiently frequent intervals. This made it easier for the girl who had formerly been feeder and enabled the girl who had formerly been the receiver to earn higher pay. Production was more than doubled. Many similar instances might be cited to illustrate the sort of development that comes when real elementary time study is undertaken.

From the foregoing it will be seen that it is a relatively simple matter for a man skilled in the trade or industry in question, having before him the drawings, specifications or samples of a new job which has never been manufactured in the plant, first to write out a list of all of the elementary operations which go to make up each major operation in the manufacture of the product, and having done this, to select from his time study data the time for each of the elements involved in each operation; and thus to set for a new job the time which it should take just as accurately as might be done for any job which had been previously done in the shop.

For the making of time studies a decimal stop watch which not only may be snapped back and permitted to start from zero with a single pressure of the finger, but which also may be stopped at any point and started again from that point, is necessary. The ordinary type of stop watch or horse time is not at all suitable. A board designed to hold the stop watch in a convenient position and also to hold the sheets of paper on which the time study man records his observations is necessary.

In starting to make a time study, before the watch is used, all preparation should be made, the provision of materials, tools, etc., and the conditions generally made as perfect as possible. Usually it will be found simply by observation that a great many things are wrong with the process, the implements and the equipment in general as the work has been previously done, which must be corrected.

The time study man must thoroughly explain to the operator the purpose for which the studies are being made, something of the theory of time study, and secure the interested coöperation of the worker in the undertaking. The operator's part in making time studies and in the resulting improvement in methods, conditions, etc., is in many respects just as important as that of the time study man, and naturally the operator selected to coöperate in the making of time studies should be a first class operator, that is one who is above the average, but not an exceptionally fast operator.

The next step is to make a list, in their proper sequence, of the elementary operations to be studied. This may be done while the operator is going through the sequence two or three times before the time is taken and entered on the sheet. From there on the time study should be made with the watch running, the time study man noting on his sheet the reading of the watch at the completion of each elementary operation. Any unnecessary delays, false moves, or difficulties encountered and the time they involve must be noted. The time study will show up various difficulties which must be overcome or conditions which must be improved if the operator is to perform the same elementary operation repeatedly in the same time. For example, in studying the folding of handkerchiefs preparatory to their being pressed, tied and boxed, it was found that a considerable number of handkerchiefs were not square and whenever a crooked handkerchief was found the operator had to straighten it by pulling on diagonally opposite corners. It was also found that the operators had a habit after having folded a handkerchief of patting it from two to ten times with the hand for the purpose of creasing or setting the fold. To correct the crookedness of the handkerchiefs necessitated going all the way back to the cutting and hemstitching operations at the start of the process. The time lost in unnecessarily patting the handkerchief was overcome by getting the operators out of the habit and teaching them to crease the fold with a single movement of the hand.

After a sufficient number of observations have been made and all of the difficulties noted and overcome, the standard elementary time unit is selected for each of the elementary operations. There are a number of methods used, all more or less intricate, in selecting the standard elementary time unit, but the simplest and one which has proved to be eminently satisfactory, is to select that time which occurs most frequently in a series of observations. If there is any difficulty in this it indicates something wrong with the conditions or the study. In the case of operations such as folding handkerchiefs it will be found that many of the elements consume less than one hundredth of a minute. A skilled time study man may record a sequence of elements of about two hundredths of a minute each in duration, the limiting factor being the speed with which he can enter the time on his observation sheet, and while by direct reading an occasional element as small as one hundredth of a minute may be taken, it is impracticable to do so if a large proportion of the elements are so small. To overcome this difficulty Mr. Carl G. Barth has developed a very simple method.[1]

In setting tasks based upon elementary time study, not only must the time for each elementary unit be included, but there must also be an additional allowance made to cover fatigue, mental inertia or the unavoidable pause between the completion of one elementary operation and the starting of another, which might perhaps be defined as the time required to think what is next to be done and for the mind to telegraph its orders to the hand; and also to cover the time which should be provided for the operator's own needs.

In repetitive work the determination of the percentage of allowances is relatively simple, the usual method being after the time for a given operation has been determined to make an overall study ranging from one to three days in duration, noting the time taken for the completion of each cycle, all delays, false moves, etc.

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[1] Taylor, F. W., *Shop Management* pp. 172–174. Harper Edition.

After eliminating any unnecessary delays the difference between the overall time for the work done and the time as shown by the time study gives the percentage of time which must be added to the flat or minimum time. In work of a more varied nature it is not so simple as the time allowance varies in proportion to the number of different elements entering into a job and the frequency or infrequency with which they are repeated. For example, a simple job consisting of a small number of elements repeated over and over again becomes largely mechanical and calls for a very small percentage of extra allowance, say about fifteen per cent, whereas a complicated job consisting of a large number of different elements, the complete cycle to be performed only once may call for an allowance as high as one hundred percent of the flat or minimum time. In every plant formulae for the percentages of allowance must be established as a result of study.

The time study man himself should be one who has had extensive experience in the work to be studied and it is desirable, and in some industries necessary, that he be able personally to perform any of the operations which he may study. He should be a person of mature age and possess infinite tact and patience, being able to get along well with the workers, to command their respect, and of a character and personality which will assure the workers of his fairness and his interest in their welfare. He must also be of a scientific turn of mind, be able to analyze the work to be done and possess the requisite ingenuity and energy and perseverance for correcting improper conditions and for effecting improvements, the need for which his analysis and study will bring to light.

The time study man's function does not cease with the establishment of a method and the time which work should take, but what is of greater importance is that he follow up his work to make sure that the method once established is adhered to, and that the conditions upon which the performance of the work in the time set depend are maintained. He must investigate or have investigated by one of his assistants every case of failure to earn bonus, to determine whether or not such failure is the fault of the operator or due to conditions over which the operator has no control. In all cases where it is found that the failure to earn bonus is due to some causes beyond the control of the operator he must see that the time is adjusted accordingly in the operator's favor. He must be equally firm, however, in seeing that the bonus is not paid to an operator where the failure to accomplish the job on time is due to something for which the operator is responsible, such for example as a deviation from the method or carelessness.

The importance of having detailed instruction cards, which may be referred to by the functional foremen and the operators, not only to show what the time allowed for each job is based upon, thus inspiring confidence, but as a means to the maintenance of the methods and standards established, will be apparent.

## FUNCTIONAL FOREMEN IN THE SHOP

In place of the single foreman in charge of a shop or a department or section thereof having to perform all of the duties in conjunction with its operation—such as increasing or decreasing his force of employes, keeping them supplied with work, correcting troubles, looking after the repairs and in general supervising all of the thousand and one things incident to the operation of the shop—we have under Scientific Management several foremen, each performing a single specific function. Certain of these functional foremen as has been shown are located in the planning department. Among them are the route clerk who plans the method to be followed in performing the work, the time study and instruction card man who plans in further detail just how each operation shall be done and sets the time, the order of work clerk who sees that each workman is kept supplied with sufficient work ahead, and that the jobs are taken up in proper sequence, etc. In the shop proper there are usually four functional foremen who come directly in contact with the worker. Each of these will be described in turn.

The *gang boss* is responsible for checking up and seeing that all preparation for each job has been made in advance, that materials and tools and instructions have been delivered and are located conveniently for the operators to whom the jobs have been assigned; in this he supervises the work of the move-men and others who serve the worker. He is responsible for the orderliness and cleanliness of that section of the shop under his charge and for seeing that the workers lose no time between jobs. He also, in many industries where the setting up or changing of a machine is necessary before proceeding on a new job, assists and instructs the operator in this part of the work.

The *instructor* is responsible for seeing that the methods prescribed by the instruction cards are followed and for giving such help and instruction as may be required to the less skilled operators. As a matter of fact a great number of the operators require little if any assistance from the instructor as a regular thing, so that his attention is in a large measure confined to the newer operators or those who have difficulty in accomplishing their work in the time set. The instructors also act as the agents of the time study man—investigating failures to accomplish work in the time set, reporting any difficulties encountered calling for correction or adjustment, checking up the standard methods and conditions established to guard against retrogression.

The functional foremen previously referred to are primarily concerned with matters of production. It is their duty to see that the work is turned out in the time established and to see that any conditions which interfere with production are corrected. On the other hand it is equally important that the work produced shall be up to the required standard with respect to quality. It is obvious that people who are primarily interested in production will not be equally interested in quality and vice versa. Therefore it is the practice to have in each section of the plant a functional foreman known as *the inspector*, whose duty it is to see that the work turned out is up to the required standard of quality and who has no interest whatever in the speed with which it is done. The inspectors are in effect instructors in quality.

Good inspection *prevents* spoilage or bad work instead of *detecting* it. The customary method of inspection is, for the planning department, when a job is started to send a notice to the inspector advising him to that effect. The inspector goes at once to the work place, gives the operator such instruction or explanation as may be necessary and sees that the first piece or the first few pieces produced are correct. He returns from time to time during the process of the operation inspecting the work which has been completed since his last visit, so that by the time the job is finished he has inspected all of the work turned out. He then reports to the planning department the results of his inspection, reporting any damaged or defective work and the nature of damage or defect. It must be borne in mind that the bonus, or the high rate in the case of differential piece work, is paid not only on condition that the work be accomplished in the time set, *but that it shall also be in accordance with the requirements as to quality.* The inspector is usually responsible directly to a head inspector who in turn is responsible to the Designing Department and has full authority to reject any work not up to the standards.

*The repair boss* under the scheme of functional foremanship is responsible for the condition of the machinery and applianees throughout the shop, for their being kept up to the standards which existed or were established at the time the elementary time studies were made and for guarding against breakdowns due to neglect. He also instructs the workmen in the proper care of their machines and sees that they are not damaged through carelessness or abuse. In a small shop the repair boss with occasional assistance may personally perform all of the duties in conjunction with this function, while in a large plant he may have a considerable organization including a repair shop of his own and may carry out his duties through rather an elaborate system such as the writer described in a paper presented a few years ago before the Taylor Society. In a large plant the repair boss might be dignified by the title of Superintendent of Maintenance. The feature of this work to be emphasized is that breakdowns and the necessities for emergency repairs should be prevented through adequate periodic inspection and adjustment of machines and appliances.

Happily the old idea that good management consisted in keeping down what was often erroneously termed "non-productive" expense is on the wane, as is its twin fallacy the belief that the payment of low wages was essential to low manufacturing cost, and with them are passing the objections of the manager of the old school to the newer and more effective way of doing things.

The absurdity of constructing a subway, an office building or building a machine for any purpose without complete engineering plans and specifications is today apparent even to the non-technical public. Yet it is within the memory of living men that a draughting room, an engineering department or a designing department was regarded as "non-productive" and even undesirable, while today it is a recognized necessity; the planning department is steadily and rapidly coming to be generally regarded in the same light. With the planning and control of work as has been described taken care of in the planning department, the foremen—each specializing on a given function—are enabled to devote their entire time to supervision of work in process, instructing and helping the workmen and straightening out with a minimum of delay and friction those things which will go wrong in spite of the best of planning. The workman benefits as a result of the better service he receives and is saved much time and annoyance in procuring the information he must have before proceeding with each new job, figuring out the method and getting together the tools and materials required.

Assuming that all workmen were of equal ability in these matters (which unfortunately is not the case) and that each workman were fully as competent as those selected men who under Scientific Management specialize upon the planning, still there would be a great advantage in doing it in the planning department where it is done in advance (instead of, as is inevitable in the shop, hastily at the start of the job or during its progress), in an environment better suited than that of the shop itself, and with all necessary and helpful data readily available. Furthermore *while the planning is being done the workman and the machine are engaged in actually turning out product.*

Under true Scientific Management through the planning department and the functional foremen in the shop every effort is made to place at the disposal of all workmen the best knowledge relating to the processes, to supplant loose opinion with demonstrated fact, to develop to the fullest degree the skill and intelligence of every workman, and to create conditions that will enable him easily to turn out much more work for the same expenditure of time and effort than would be possible under the old way of doing things. Thus he can make higher wages without increasing the cost, and through the elimination of annoyances and obstacles, be happier and healthier while doing it.

Secretary Wilson expressed himself recently as follows in addressing a meeting of Governors and Mayors:

> Employers and employees have a mutual interest—not an identical interest, mark you, but a mutual interest, in securing the largest amount of production

# Influence of Executives

By H. L. Gantt

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IN attempting to rate the influence of executives on production we must recognize the fact that under our present methods executives as a rule seem to favor that system of production which to the greatest possible extent relieves them of responsibility.

Throughout our whole system of production there is a tendency to blame the man lower down, rather than the man higher up, with the result that the man in the shop may be reprimanded, or even discharged, for an error in judgment which caused the loss of a few dollars, while the man at the top, making a similar error in judgment costing thousands of dollars, too frequently gets by without anybody's knowing that the loss was due to his failure.

The existence of such a condition is not only detrimental to the business system as a whole, but produces great hardships upon the workmen as individuals. It is not claimed that executives in general desire to shirk their responsibility and place the blame on others, but our business methods are still dominated by the spirit of the past, which was, "the king can do no wrong," that is to say, if a man has the power to do a thing, it is right for him to do it, or, as he would put it, "he has a right to do it." The flaw in this reasoning is in the meaning of the word *right*. All will agree that no man has a right to do wrong; but we must understand more clearly what we mean by *right* and *wrong*. A bridge is right when it will carry the load for which it was designed, wrong when it will not. *In an economic or a moral sense an action is right when it will advance the cause of humanity, and wrong when it will not;* hence, it is stretching the meaning of the word to apply it to a question of fashions.

The Germans thought that which they expected would advance *their* cause was right, no matter what effect it had on other peoples. We fought to resist the application of this idea, and may always expect conflict when an attempt is made to assert a "right" to the detriment of others. It is not hinted that the business man intentionally does wrong by making a decision that will in the long run be detrimental; he simply uses the best information he has, which frequently is not enough. Nor have we as a rule such information as to the results of his action as to be able to make clear what they really were. We have comparatively accurate methods of measuring the performance of workmen, but until recently we have had almost no methods of measuring the effectiveness of executives except the profits made by the business.

If the business does not make profits, we naturally blame those causes we can see, and ignore those we can't see; this is the reason the shop gets the blame, and the office often goes free. If the business makes money the executives always get credit; but inasmuch as the elements entering into profits are numerous and intricate, they are not by any means a safe estimate for the effectiveness of the executives as producers. In fact, many times increased profits are made by cutting down production, even though the community may be sadly in need of the product. This, according to the present business system, is "good judgment" although it may be detrimental to the public. Our conclusion is that the influence of executives on production can be determined only by a careful record of how the facilities at their command are being used.

An analysis of many manufacturing plants indicates that in but few cases are the machines and equipment in active use more than one-half the working time. Recognizing that it is one function of the executive to keep the plant in operation, we can find out how he is performing that function by asking in detail why his machines are idle. We find that the reasons may be summed up under a few heads, such as, lack of orders, lack of material to apply on orders already received, lack of help to work on the available material, the fact that the machinery may not be in proper condition to operate, etc.

These are functions over which the workman, as such, has no influence whatever, and are exclusively within the realm of executives. If the plant is short of work an executive must take up the question with the salesmen and the shop superintendent. He will determine:

1. What kind of work is needed to use the machines that are idle.
2. Whether there is such work to be had.
3. Whether he can afford to do it at the prevailing prices.

It is always possible to determine what kind of work is needed to keep the machines busy, and to find out if there is such work to be had in the market; but without a very full knowledge of costs it may not be possible to know whether that work can be done by the factory at the prevailing prices.

The cost systems most commonly used, namely, those in which all the expense of the plant, whether it was used for production or not, is made a part of the cost of the articles produced, do not give us any satisfactory solution of this problem. We should not be surprised at this *for a cost system which puts upon the product of one machine the expense of maintaining in idleness another machine which did not in any way influence the product, is fundamentally false.* It is based on the theory that invested money must return profit, or interest, whether it is used productively or not. This theory has held sway for so long that it is generally accepted in the business world as an axiom. It is so far from being an axiom, however, that I am very thoroughly convinced that it has had a more detrimental effect upon business and the community as a whole than any other single item. In fact, I sometimes feel that it has been more detrimental to our business and industrial system than all the other items combined.

In our first attempt to find out whether we can afford to take an order or not, we must find out what expense we should be under for maintaining our equipment in idleness, if we did not take the order; for it is perfectly well understood by all thinkers on the subject that idle machinery is idle capital on which we lose not only the interest, but the depreciation, taxes, and insurance on the machinery as well. If failing to take an order would cause idleness of machinery and equipment, we should incur an expense if we did not take it; moreover, we should lose a part of our organization through the above mentioned idleness. If we took the order at a loss equivalent to that caused by the above mentioned idleness, we should still be ahead, for we should not lose our organization. It is clear, then, that if we took the order and maintained our organization, we should be in better condition than our competitor who did not take a similar order and not only incurred the expense due to idleness, but lost a certain portion of his organization.

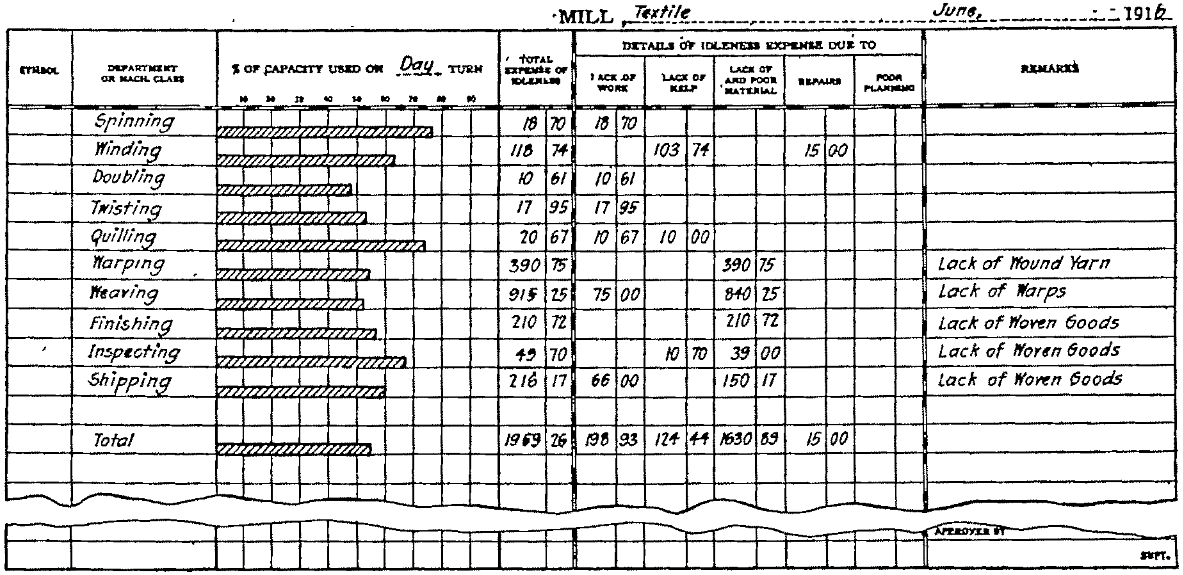
To those who have not figured the expense of maintaining machinery in idleness, the amount of such expense in the ordinary manufacturing plant comes with a great shock.

Figure I shows what this amounts to for various causes in a comparatively small plant. It also shows in a most marked way how lack of judgment on the part of an executive may create a very serious loss which would not be recognized unless the analysis shown on this chart is carefully studied.

It will be noted that on the winding machines there was an expense of $103.74 due to idleness because of lack of help. Without a careful investigation it might escape one's notice that this lack of help had a very marked effect on the whole expense of the mill. There was an expense of idle warping machines of $390.75, due to lack of wound yarn, much of which would have been avoided if the winding machines had run more continuously. The looms had an idle expense of $840.25, due to lack of warps, also directly traceable to the fact that the yarn was not wound. The Finishing Department had an expense of $210.72 because goods were not woven. Also, the Shipping and Inspecting Departments had high expense, due to the fact that the goods were not woven because there was not sufficient yarn; the yarn was not wound because there was not sufficient help.

Such an analysis naturally places the responsibility where it belongs—probably on the labor policy, which is dominated by the chief executive.

It is just such studies as this, made in numerous plants, that have convinced us that a study of idleness is much more effective in increasing the output of the plant than the study of efficiency, as it has been studied. In general, the efficiency engineer studies a few men who are doing good work and attempts to bring the whole group up to that standard. In this he necessarily, to a large extent, meets resistance on the part of the workmen, who are not slow to realize that much of the lack of production in the factory is due to failure on the part of the executives to do their work properly, rather than on the part of the workmen themselves. Under such conditions we find that although we make an increase in efficiency on the part of the workmen, that increase is not always effective in producing a greater output unless those in executive positions are making the more important decisions intelligently, for an error in the decision of an executive may counteract the beneficial effect of efficient work.



MILL Textile June, 1916

| SYMBOL | DEPARTMENT OR MACH. CLASS | % OF CAPACITY USED ON Day TURN | TOTAL EXPENSE OF IDLENESS | DETAILS OF IDLENESS EXPENSE DUE TO LACK OF WORK | LACK OF HELP | LACK OF AND POOR MATERIAL | REPAIRS | POOR PLANNING | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | Spinning | | 18 70 | 18 70 | | | | | |
| | Winding | | 118 74 | | 103 74 | | 15 00 | | |
| | Doubling | | 10 61 | 10 61 | | | | | |
| | Twisting | | 17 95 | 17 95 | | | | | |
| | Quilling | | 20 67 | 10 67 | 10 00 | | | | |
| | Warping | | 390 75 | | | 390 75 | | | Lack of Wound Yarn |
| | Weaving | | 915 25 | 75 00 | | 840 25 | | | Lack of Warps |
| | Finishing | | 210 72 | | | 210 72 | | | Lack of Woven Goods |
| | Inspecting | | 49 70 | | 10 70 | 39 00 | | | Lack of Woven Goods |
| | Shipping | | 216 17 | 66 00 | | 150 17 | | | Lack of Woven Goods |
| | | | | | | | | | |
| | Total | | 1969 26 | 198 93 | 124 44 | 1630 89 | 15 00 | | |

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FIG. 1. IDLENESS EXPENSE CHART

We have recently devoted attention at first to those functions which are entirely within the control of the executives, and through properly coördinating them have succeeded in getting the benefit of increased efficiency of whatever kind. Moreover, we get the coöperation of the workmen at once in making studies, for he much prefers to see his work effective than to have it wasted.

It is manifestly to the interest both of the management and the workmen that the machines should run as large a portion of the time as possible, for such a proceeding delivers more product from the works, and makes more jobs for the workmen, which gives them that community of interest which we have heard so much talk about, but which under the prevailing system of cost keeping is absolutely lacking, for it withholds reward from idle labor, which is just, but grants it to idle capital by ignoring the fact that capital may be idle.

It is on this account that I say that a recognition of the expense of idleness and *the allocation of this expense to those who are responsible for it, is the most important economic fact that has been brought to the attention of the business world for many years.* If we will adopt the principle that capital, like labor, is entitled to reward only when it produces some desirable result, we shall have taken a long step forward to still the industrial unrest which is rapidly rising about us.

The adoption of such a cost keeping system is not the function of workmen; it is not a matter on which the workmen can have any effect—it is purely in the hands of those who, through ownership, have control of industries. If they continue to insist that idle capital shall have reward and idle labor shall not have reward, it is entirely possible that the tables may some day be turned by the workmen, who will say not only that capital which produces nothing must have no reward, but that all workmen shall be paid whether they do anything or not. Such action would produce in this country a condition of which the condition in Russia is only a mild imitation. The responsibility of forestalling the possibility of such a condition lies in the hands of our business men, who are only just beginning to learn that business must serve the community as a whole and not one class only.

A partial recognition of this fact by Germany during the past twenty-five years was in a measure at least responsible for the great industrial prosperity which that country attained before the war. An autocratic military power, for its own purposes, forced the business system to be "somewhat social and civil" and thereby produced an industrial system which was rapidly making itself felt all over the world.

If this great result was attained because the business system was *somewhat* social and civil—in reality only a very little bit—what would the result be if the business system should recognize in a wholehearted manner its social responsibility, and devote itself primarily to rendering service as its first duty? Suppose, for instance, we should recognize coöperation in the production and distribution of socially necessary commodities as our motto, there is no knowing what the reduction in cost to the community would be, and how many men would be freed for other work. We were obliged to do this in a measure during the war to get strength to fight with, but it was done crudely and as a temporary expedient. How much better the results would be for the whole community if it were done as a permanent policy, and by the best men available!

The adoption of such a policy is in the hands of the executives, and if our executives are of large enough caliber they will see that this is the strongest force they can use to oppose socialism, communism, or bolshevism.

# Financing as the Manager Sees It

By Howard Coonley,

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IT is not unfair, I believe, to say of the average manager of a business, that he gives in the early stages of his undertaking less thought to his finances than to any of the major problems which he has to solve. Yet the financial policy is second in importance only to his handling of the industrial relationship questions. The latter stand out in bold relief before him, and he will find in the end that the same principles govern his financing as regulate his methods of production and problems of personnel.

The last few years fortunately have shown industrial managers that a veil of secrecy drawn over their operations is not an asset but a liability. The man who is ever ready to show to his fellow industrialist—whether or not he be a competitor—his product, his equipment and his balance sheet, is the one who receives the greatest respect and the largest return benefits. In financing, as in every other branch of management, the principles of the open book and the square deal point the only sound road to success. They are the great indicators and if the executive follows them with a clear brain, red-blooded courage and such conservatism as "horse sense" dictates, he will not be apt to go astray.

There are innumerable ways of working out these broad basic principles. It seems to be a truism that in starting a new business, as in building a new house, it is against all rules to provide enough money in advance. As a matter of fact, nine times out of ten no financial policy is laid down until the executive has encountered serious difficulties and is therefore forced to develop a plan. His problem then is identical with that faced by the manager who comes into an old and once prosperous business which has slipped into the doldrums. Each must now laboriously pick his way through the tangled and slippery path, which if approached earlier would have been simple. He is wise indeed who adopts a policy before he finds himself forced to work one out.

The only foundation upon which a sound policy can be built is that of "financial morality." By this I mean much more than clean hands in the handling of finances. It calls for absolute scrupulousness in every statement made. It is even more necessary to be entirely accurate when things are going wrong than when they are going right. Frankness always inspires confidence, and the confidence of every individual or group of individuals interested in your business is essential. Without such confidence there can be no hope of full development and complete success.

Naturally the first group to be kept in intimate touch with your situation is your directors, the next your stockholders, the third your bankers, the fourth your employes and the last, but by no means least, the public. Few business men realize what material help can be gained through being advised in all important steps by their bankers. Here is a group of specialists, highly trained in their profession, with every reason to assist where it is possible, and who are always in a position to bring in an outside, yet interested view point; and yet how seldom is this talent utilized. To go to the banker only when you have something good to tell him is the height of folly. Then you do not need his services. But when your mind is disturbed and you have situations to meet where you need a cool head, then you can find close at hand an able adviser who is always looking out for your best interests, because they run parallel to his own.

Even should your banker not be able to give you valuable advice, it would still be wise to follow this policy for the sole purpose of gaining his confidence. When he learns the difficulties you encounter and has evidence of your ability to solve them, his confidence will be won, and confidence is the strongest possible foundation for credit. For some unknown reason many executives look upon a banker with distinct awe which sometimes amounts almost to fear. They enter the portals of his office with a feeling of embarrassment and in consequence state their case timidly and therefore unconvincingly. Such an attitude is, of course, ill founded and unfortunate. The experienced banker knows the fluctuations of an ordinary business and is naturally ready and anxious to discuss yours with you. Remember that it is through the loans he makes to you, as well as the deposits he receives from you, that his own business is built up.

There was once a struggling young firm of brothers in the Middle West. They had made a start on inherited money and progressed well up to a point where, to meet a most promising trade opening, they faced the necessity of making extensive improvements and additions to their plant. The firm was sound. It had a small but efficient plant and was manufacturing a ready-selling product in a market that brought good, steady returns. But the brothers had sunk nearly all their money into the plant and had far too little left for working capital.

Because their business was in the town where they had been reared and they were looked upon as the town's "élite," the young men felt a sense of embarrassment about money matters and made the mistake of surrounding their financial affairs with secrecy. They felt that to make known matters involving their company's capital might operate against their prestige, particularly because of their intimacy with the townspeople and their consequent fear of gossip and criticism.

Their banker knew little about the brothers' business beyond the fact that in a period of general prosperity, their balance had been almost depleted by large withdrawals. He did not know that the young firm had invested heavily in improvements with the prospect of large returns. The boys had good business judgment and their investment at this time was wise. But they had miscalculated costs and suddenly found themselves without funds to buy necessary supplies and to meet their immediate payrolls. Fortunately for them their banker was wiser than they knew. Rumors had reached him of a financial crisis at the plant and he did not wait for the crash. He went to the brothers and after some prodding, drew from them the true story of their plight. The young manufacturers found that they could get all the money they needed from their bank, because their policies and prospects were sound. Their foolish policy of secrecy had brought them to the verge of nervous breakdown, and might under other circumstances have caused their failure. After that, these two brothers went to the wise banker with every financial problem and laid their cards face up on the table. Today success is theirs. They got from the banker not only needed funds but the sound advice of seasoned judgment.

This story also leads us to another fundamental of financing.

I refer to the borrowing of money. A business which is undergoing a healthy growth should through temporary periods employ outside funds. If it does not it is not availing itself to the full of its own capital. It is, therefore, essential to establish and maintain credit with the bankers. Use must be made of credit in order to maintain it. Every bank likes to do business with the company that borrows funds, but by the same token it expects such borrowings to be cleaned up at least once a year. I know of a case where a certain company borrowed funds year after year even though they did not need them, simply to establish credit. Some years later when they found it possible to use temporarily much more money than they had in the bank, it was easy for them to borrow what they needed. Had they, however, gone through a long period of years without borrowing, their bankers would have questioned their reasons for going into the market and might even have been suspicious of their financial soundness.

The wise manager will establish a line of credit with his bankers at least double that which he expects to use. I say bankers, because in most cases it is wise to have more than one banking connection. He will then see to it that his balances fully warrant the line of credit which he asks and will also provide that at least once a year his loans are entirely cleaned up. At the same time he will keep his banker in touch with the amount of his borrowings and will let him know why he needs the money and how he intends to take care of the payment. He should also periodically use his entire line in each bank. This insures the privilege of the full line at any time it may be required, and also provides a valuable instrument for increasing the line later on if that is necessary.

A broad gauged banker studies the balance sheet with two points in mind, first the firm's present condition as shown by the comparison of his quick assets and quick liabilities, and second the progress indicated by the study of previous showings. It is not always the firm that is out of debt which is sought as the best credit risk. It is the one that has able and thoroughly honest management, a good product and a record of rapid but sound growth, which is sought. It is, therefore, essential in laying out a financial policy to keep these points in view.

Another cardinal principle of sound financing is to have at least one period in each year in which the business is liquidated.

Other things being equal, it is advisable to carry out this liquidation at the end of the calendar year, assuming that this is also the end of the fiscal year, because by this process it is possible to make a better statement to all those interested in the company. In many businesses, however, a liquidation at that time is impossible because of the seasonability of the product. In such industries as the agricultural implement, the period of high production and shipment extends through the winter and well into the spring, and it would be unwise in such a case for them to cut down their inventory at the period of maximum production. To a large extent, therefore, producers of agricultural implements have made the end of their fiscal year somewhere about the end of May and have used this also as their period of liquidation. The value of such a "clean-up period" is not only that of a good financial statement; it also provides the best possible opportunity of a general checking up throughout all the activities of an organization.

An intensive effort of this kind throws a spotlight on every branch of the organization. Delays and weaknesses in production, shipment, collection, etc., are brought to the front and an opportunity is given to correct soft spots in the organization. An executive who does not follow this method loses the best weapon he has for increasing his efficiency.

Many people consider that a long period of high dividends is the best indication that can be made of a corporation's prosperity. This is far from being the case. In an effort to bring about good returns for the stockholders, a great majority of executives bleed their businesses to such an extent that they are not left with sufficient capital to invest in improved machinery and modern tools. Then when they come into a season of low demand with the inevitable struggle on each corporation's part to maintain its share of business, they find it impossible to meet the prices of a thoroughly modern producer without incurring a loss and are in consequence often thrown into a position of great financial embarrassment.

One of the first lessons I was taught was that a business which paid out to its stockholders annually more than one-half of its profits was sure to run down hill. With a constant call for the expansion in every line of production requiring new patterns, new machines and additional stock, together with the necessity of increasing the investment in quick assets as the business grows, a policy of constant addition to the company's surplus is the only safe one to pursue. Over a period of years the business which does not show a profit of 15 per cent on its capital invested, is not a healthy one, because such a profit will not warrant a dividend greater than 7 per cent. And the holder of common stock who is not receiving a dividend of 7 per cent or a steady increase in the asset value of his stock, will be much better off by taking his money out of this business and placing it in bonds or securities which pay a slightly lower return, but which would be much safer under liquidation.

I have spoken in the earlier part of this article about the necessity of entire frankness not only to our directors, stockholders and bankers, but also to our workmen and the public at large. The last few years have taught us many lessons, but none so important as the necessity of a close relationship between employes and management. The war has brought about a new era in industrial relationships, one which when followed out to the end will lead to some form of industrial partnership that will give the workmen an opportunity to share in the profits, and through such sharing his interest will be aroused in the greater efficiency of production and will automatically bring to capital a greater return than it has had heretofore.

Almost all wide awake executives have created within their plants joint committees of employes and management who are gradually taking over the decisions in matters which concern the workers. Through such a medium a great amount of information can be spread to all the employes regarding the actual facts about the business. I am one of many who believe that publicity is the best remedy for any dissatisfaction. In conferring with one of our plant committees a short time ago I was much interested to learn that the workers had an idea that the item of surplus on our balance sheet indicated money in the bank which, at some time when the world at large was not looking, could be distributed among the stockholders. I took occasion to give a very full explanation of the surplus account, how it grew, why it was necessary and why it was absolutely impossible to distribute it. The effect on the men was very wholesome. It gave them a new view point as to the profits of the company and answered many of the questions over which they had been brooding. It is

# Corporation Finance and the Wage Worker

By Frank Julian Warne

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THE primary object of any industry is production—production of commodities or of services. In these commodities or services three groups in society have an economic interest. These three groups are the capitalist whose money is invested, the worker who supplies the labor, and the consumer who pays the price for the commodity or service. As viewed from the welfare of these three classes, which combined comprise all members of society, the fundamentals of the finances of production should be a fair return to the owners of the capital, a fair wage to the possessors of labor, and a fair price to the consumers of the commodity or service. These finances should be so organized that the attainment of any two of these fundamentals or objects would automatically produce the third. That is, a fair interest or dividend and a fair wage should of themselves in combination result in a fair price; a fair interest or dividend and a fair price should of themselves in combination result in a fair wage; and a fair price and a fair wage should of themselves in combination result in a fair return to capital in interest or dividends.

If this is true then it is equally a fact that the prime essential of the finances of any corporation engaged in production is to show the actual true capital investment of money and services. If the finances do not show this—if the true capital investment is arbitrarily increased by paper capitalization and hidden or concealed by corporate organization and similar methods—then it is impossible to ascertain what is a fair return to any single one of the three elements to successful production. If, for example, only one million dollars of money and services are invested in a corporation, with its finances showing a capitalization of, say, ten million dollars, and an endeavor is made to pay a return on the ten million, there cannot possibly be a fair return on capital, a fair wage, and a fair price—every one of the three is most likely to be unfair. So at the very outset it is impossible, for any industry so capitalized to supply the essential elements of fairness to the three classes interested in its production.[1]

The first questions that naturally will be asked are: What is a fair return on capital invested? What is a fair wage? What is a fair price?

The depositor in a savings bank receives three per cent interest. His savings have thrown about them the greatest possible security as to principal. He is satisfied with this low rate not primarily because the interest is a fair return—it may or may not be—but for the reason that he is concerned more in saving than he is in earning something from his savings. This investor is usually "inexperienced," or for various reasons as, for example, an executor of trust funds, has the security of principal as the prime object. Return on capital ranges in actual practice from this three per cent to almost any figure, depending largely upon the degree of risk to principal, or uncertainty in regular interest return, or simple speculation. This is merely to indicate that no arbitrary figure can be determined upon as a fair per cent return to all capital generally. Such a return can be ascertained, however, in almost any particular industry or business, and in most industries a particular rate has become established by which the return to capital in other industries is fairly measureable.

The same general statements are true with regard to what is a fair wage. Not all workers receive nor should they receive the same wage, even in the same locality or in the same trade or occupation. Thus in actual practice the return to workers in wages for labor performed varies relatively as greatly as does the return to capital. But in any particular occupation or locality most of the factors entering into the composition of wages, such as cost of food, clothing and shelter, are not so difficult of measurement as to prevent the determination of what is a fair wage to the worker from the family as well as the social viewpoint.

If it is agreed that invested capital should have a fair return and that in every industry the wage should be fair, then the price of a commodity or service would naturally adjust itself to these requirements—that is, the price would be such as to permit a fair return to the capitalist and to the worker. These latter having been ascertained the price automatically adjusts itself. In cases of industries where for economic reasons the price cannot bring a fair return to capital and labor, then if the needs of society demand this commodity or service the government should subsidize the industry through taxation sufficiently to produce these desirable results.

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[1] The writer is familiar with the stock phrases that endeavor to justify over-capitalization, but all such arguments stress profits to the individual and not service to society.

The determination of the return to capital or to labor cannot be left to each respective interested class. If it is, then one or the other or both remaining classes is or are disadvantageously affected. If the capitalist alone determines the return on his money he is likely to make it too high; if the worker alone determines the wage rate it also will likely be too high; if the consumer alone determines the price it is likely to be too low to permit of a fair wage and a fair return to capital. Nor can the determination of what is a fair return to capital, a fair wage, or a fair price be left to any two of the three parties interested in production because of the danger of a possible combination of class self-interest. Such determination can be arrived at only through the participation of all three parties interested.[3]

An industry having no accurate measurement of the amount of capital invested has no foundation upon which to base the determination of a fair return to capital, a fair wage, or a fair price. Such determinations for such an industry are impossibilities. And this is the situation that today confronts virtually every large industry in the United States. It reflects a condition which is the cause of complete lack of faith or confidence on the part of the great mass of organized wage-earners in the so-called financial reports of all our large corporations. This in turn has resulted in these wage-earners refusing to accept the reports that are made as in any honest degree reflecting the actual facts and in declining to accept these reports in wage discussions with employers and in arbitration proceedings as a basis for determining "the ability to pay" the higher wages or improved conditions of employment that may be demanded of the industry. In consequence, it is next to impossible for arbitration boards to render intelligent and just decisions in such cases. Perhaps this is one reason why arbitration through the intervention of the national government no longer has the confidence of railway employes.

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[3] For the purpose of this paper the cost of management in salaries to executives, superintendents, and so on, which it might be desirable for other reasons to consider as a fourth factor in the cost of production separate and distinct from return to capital and labor, can be included in either group.

This is reflected in the experience that has grown out of the numerous concerted wage movements during the past ten years and more of the four railway brotherhoods whose members are engaged in the operation of trains. The first of these movements, involving a large group of railroads in a particular geographical section, was in 1910. Down to 1913 one, if not the principal, defense of these transportation companies in opposition to the demands of their employes for higher wages and shorter hours of work, was "inability to pay." So persistent was this claim put forth by the railroads without specific proof of the assertion—other than the formal statistical presentation of their "property investment" and "capital obligations" accounts as taken from the reports of the companies to the Interstate Commerce Commission—and so insidious was its effect upon members of the board, that two of the railway brotherhoods determined upon an ascertainment of the facts, if it were possible to ascertain these facts.

For eight months a most exhaustive investigation was made by a staff of experts. The so-called "property investment" account of all the important railway systems of the United States was analyzed. Their intercorporate relations through stock ownership were also established and the effects of these relations upon the finances of the companies shown. Their so-called "capital obligations" account was gone into thoroughly; also the interrelation of all these companies with each other and with other industrial and financial corporations by means of interlocking directorates. No ascertainable fact that would throw light on the complicated situation was ignored. And when in 1913 the concerted wage movement of the Order of Railway Conductors and Brotherhood of Railroad Trainmen against the leading railways of the Eastern Territory came before the board of arbitration appointed by President Taft to settle the controversy, all this mass of data was presented before this board in statistical tables, charts, text explanations, and in the testimony of an expert witness. Then and there the Eastern railroads stated for the first time that they did not claim "inability to pay."

The sum and substance of this investigation by the railway brotherhoods is to condemn forever, before any fair-minded body of men, as utterly worthless the so-called "property investment" account as it appears today on the books of these transportation corporations. The same statement is true as to the alleged "capital obligations" account of these corporations—it is worse than useless as a fair measure of ascertaining the securities that have a just claim upon the earnings of the companies; it is actually misleading. These statements are verified by findings and rulings of the Interstate Commerce Commission. This, then, is the situation today with regard to the "official" statements of the railroads of the country as to the basis of their elaborate financial structure. This basis is unsound, unjust and misleading, not to use harsher terms. Consequently the railway employes have not the slightest confidence in the financial statements of railway corporations—the employes in their wage demands absolutely refuse to take into consideration any claims of the officials as to the corporations' finances.

If this condition exists with regard to the finances of our railroads, whose accounts are now kept according to rules of the Interstate Commerce Commission, are regularly inspected, and are far more subject to governmental authority than the accounts of other corporations, what is fairly to be expected as to other corporations virtually free in the adoption and employment of financial and corporate practices? The point is that there has been such misuse of the legitimate principles of corporation finance that in only exceptional cases of our large industrial enterprises is it possible to ascertain the facts essential to a just determination of a fair return to capital, a fair wage to labor, and a fair price to the consumer.

We see the injurious results of these general conditions in the present dangerous situation as regards our railroads. For years there has been a din and clamor in certain influential sections of the public for a so-called valuation of our railroads. Congress finally gave to the Interstate Commerce Commission authority to make this valuation. One of the instructions to the Commission in ascertaining this value was to report the original investment. The Commission's experts claim this to be an impossibility because even the railway corporations themselves assert that they do not possess the facts as to the original investment. The constitutions of twenty-seven of our states and the common law in virtually all of them limit the issuance of securities to the amount actually invested in the property plus services and labor performed and declare null and void all securities issued over and above these items. Notwithstanding, the so-called investment market has been literally flooded with securities issued by these railroad corporations, which securities today stand as a "legal" claim not alone upon the earnings of these properties but also upon the properties themselves. Many of these securities are virtually piratical demands every six months forced from the passenger or shipper by means of the price of railway transportation that he is compelled to pay over and above the price or rate necessary to meet the legitimate cost of the service. This paper capitalization is an unjust burden upon the consumers of railroad transportation. As long as it continues, a fair price is an impossibility and an excessive return to alleged investment is the product.

The grim truth of the whole matter is that the corporate instrumentalities of production are not organized financially on a basis that will today permit the determination of what is a fair return to capital, a fair wage to labor, and a fair price to the consumer. The basis upon which they are organized is quite frequently a high return to capital, generally a low wage, and in many cases a high price.

Upon what principles can our industries be restored to a basis that will permit the determination of a fair return to the capital invested, a fair wage to the worker, and a fair price to the consumer? This is preeminently the problem for this generation to work out. He who claims to be able to supply a solution off-hand is too much of a braggart to be trusted. The forcible taking over of these industries by the government and their "nationalization" or "socialization" is being insisted upon by some. This action is based upon the right of revolution. That such a right exists in every society the writer will not deny, as it has been justified too many times in the past. The effective denial of this right would deprive the social organism of its last weapon or instrument of regeneration. Revolution, then, being the means only after all others have failed we should turn to the application of our best thought to a plan for working out a peaceable adjustment. This, however, is not the place for such an attempt.

The writer at one time planned to work out as applicable to the railroads a scheme by which wages would be capitalized, from the point of view of return from profits, on an equal basis with the capital actually invested. This plan assumed a minimum wage for every employe based upon a comfortable standard of living. Wages above this minimum in the same and in different occupations in the industry were to be determined by the ability and efficiency of the individual worker, assuming as a starting point the basis arrived at through past competitive conditions. Each employe, after one year's regular employment, was to have issued to him an amount of stock equal to his annual wage and on this stock he was to receive the regular dividend, the same as a stockholder owning that amount of par value of stock representing capital actually invested. The theory was that a year's investment of labor in the industry was deserving of equal return with a year's investment of capital. There was also to be provision for the investment of the employes' savings in the securities of the corporation. Such a plan was never worked out in detail even theoretically for the very simple reason that it was not possible to ascertain the exact facts as to the actual investment of capital in the railroads. The so-called "property investment" and "capital obligations" accounts of the railway corporations as reported to the Interstate Commerce Commission were worthless as shedding any light on the facts.

The American workingman is suspicious of the financial practices of industrial corporations as to their investments and earnings. He will never be content with any so-called "profit-sharing" plan so long as corporation finances absorb by unjust capitalization methods a huge proportion of the earnings over and above those properly due to the capital invested. Such a practice verges close to actual fraud and explains in part why the American workingman has received so-called profit-sharing schemes with suspicion. Until a financial and corporate organization of industry is adopted and put into practice by American industries that will represent the facts of investment as they actually exist, the workers will continue to ignore the alleged financial statements of these industries. One of the very first reforms necessary in these days of moral awakening as to rights and justice in the industrial world is the abandonment of past and present financial and corporate methods based on profits and the substitution of those that show the actual facts in relation to social service. Then, and then only, will profit-sharing, stock-ownership, participation in management, and like economic appeals possess to the workers the attractions inherent in their principles.

The effect of corporation finance in the past, which has involved among other practices the issuance of a tremendous amount of fictitious "investment," has been in the nature of a blanket mortgage exacting an unjust claim on the annual increase in wealth production. This increase should in justice be partly distributed among the people in lower prices and higher wages, but instead is being taken from them by the "legalization" of this fictitious investment. Much of it has been taken in the past through low wages to the worker. Now the European war has released this Titan from his bonds and he has risen to full stature and is today demanding his just share in wealth production. He is very likely not only to maintain but also to advance that claim successfully, which means that the burden of a continuance of past corporation practices will be shifted to the shoulders, or rather to the pocketbook, of the consumer through high prices. The consumer, being unorganized, will at first be unable to resist and will be subjected to a period of high prices until their exactions become so burdensome as to force him, also, into organization for his self-protection. Only when the worker and the consumer are each sufficiently organized, either separately or in combination, to resist the claims of organized capital will society reach that point where justice will be determined as between the "rights" of the capitalist, the worker and the consumer. Thus the organization of the consumer is the next step in the socialization of industrial production.

In the meantime there should be brought about in the public interest an agreement as to the financial principles that should form the basis of a present day valuation of virtually all our great industries. This is not the place to discuss this aspect of the problem except to say that these principles must rest upon public confidence by the adoption of just and fair methods for determining this valuation. Above everything else such a valuation must be open and above board with no hidden secrets or concealed claims of value that cannot stand the light of publicity.

# The Investor and the Industrial Enterprise

By Hon. George W. Norris
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THE average manufacturer, like most other business men, needs to use more money than he has. A part of this money he may reasonably expect to borrow from banks, but it is the business of banks to make "loans," as distinguished from "investments." In other words, a bank is supposed to make only such loans as the borrower may reasonably be expected to repay within a few months. A bank's loans are short-time loans. It is expected to keep its assets "liquid." Indeed, the Federal Reserve Banks are prohibited by law from re-discounting paper that is not "self-liquidating"—that is to say, paper that is issued in the course of a commercial transaction, ordinarily representing the price of goods which have been bought with the expectation, and in the probability, that they will be marketed within a few months, and that the proceeds of their sale will enable the maker of the note to pay it. It is not good banking for a bank to loan money to a manufacturer to be invested by him in land, buildings or machinery, because these are not things that he expects to sell, and he will therefore be unable to pay the loan at maturity, unless he can secure the funds out of the profits of his business, or in some other way. The funds cannot be secured from the sale of the articles which he bought out of the money secured by the loan. The money which goes into land, buildings or machinery, is capital permanently invested in the business, and if the manufacturer has to borrow this money, he should borrow it from an investor.

Investments in industrial enterprises have long been a well-established form of investment in several European countries, but in this country they are of comparatively recent development. The first investments made to any extent in corporate securities in this country were in turnpikes and canals. Subsequently, there came very large investments in railroads, and then in street railways, telegraph and telephone companies, gas companies, and electric light and power enterprises. Practically all of these investments had the attraction for the investor of being something more than a mere industrial enterprise. They included a franchise and it was recognized that with the growth of population this franchise was likely to become increasingly valuable, so that even if mismanagement temporarily made the enterprise unprofitable, it was probable that other interests would take it up because of the possibilities of profit inherent in the franchise. Investments in purely industrial enterprises that had no franchise feature connected with them were first made on a large scale in connection with the consolidation of various enterprises in the same line of business. The so-called "Sugar Trust," to which the American Sugar Company succeeded, was one of the first of these consolidations. Subsequently, similar consolidations were made in many other industries. The promoters dwelt upon the advantages of consolidation; the ability to purchase raw materials in large quantities at low prices; the elimination of the less profitable plants and the reduction of overhead expenses by the concentration of manufacturing in the most economical plants; the ability to control prices; and the economy in distribution. In some cases, these expectations were realized. In the majority of cases, they were not. In all of them, very large amounts of securities were issued, which were listed on the stock exchanges, and the investors had the pleasure and excitement of anticipating large profits by the sale of their securities at higher prices, without waiting for the slower returns of dividends.

The single industrial establishment which has no franchise and whose securities are not issued in sufficient volume to justify their being listed on a stock exchange, does not have the attraction for either the real investor or the speculative investor that was possessed by either of the above classes. It is a business enterprise pure and simple. The investor in its securities cannot anticipate a ready market for them, nor can he hope to get his money back unless the enterprise is established on sound lines, is properly managed, and pays satisfactory dividends. In some cases, the place of a franchise is taken by a patent or trademark or copyright. Where there is no one of these things and the proposition is simply to manufacture textiles or pig iron or some other standard product, in open competition with every other manufacturer in the same line in the country, the enterprise is probably more difficult to finance than any other class of enterprise, and the man who is going to run the business and wants to find outside capital, must expect to make attractive terms to the investor. He should be prepared to satisfy the investor that there is a market for the goods which he proposes to manufacture; that his plant is to be located in a suitable place, taking into account both the securing of his raw material and the marketing of his finished product; that he can secure an adequate supply of labor; that living conditions will be such as to enable him to hold this labor; that he can secure power at reasonable cost; and that, as a result of all these conditions, he will be able to conduct his manufacturing operations at a cost at least as low as the average of his competitors. He must also be prepared to satisfy the investor that the total amount of capital at his disposal will be sufficient to cover the cost of building or enlarging his plant, to carry him over the period of difficulties and delays incident to the establishment of a business, and to leave him sufficient working capital to conduct the business thereafter in the volume which is anticipated. If any one of these factors is wanting, he should not expect the coöperation of the investor—indeed, he should not enter upon the enterprise himself. If all these factors are present, there remains for consideration the general scheme of capitalization and the relative proportions in which the operator and the investor should share in the anticipated profits.

Just at this point there lies a rock upon which many enterprises have come to shipwreck. The investor, if not thoroughly experienced, is apt to stipulate for mortgage bonds, generally with a stock bonus added. His idea is that his money should be secured by a lien on the plant; that the interest on his money should be a first charge upon the profits of the business; and that if these profits are sufficient to pay him his interest and leave a large balance, he should share in the distribution of that balance. All this is very natural and very reasonable, but very dangerous. The world today is full of successful enterprises which either trembled in the balance for years, or actually "went bad" and had to be reorganized. Most of our railroads have been reorganized—some of them two or three times. The Welsbach mantle was a flat failure when it first came out and for years was supposed to be a total loss, until a supplemental discovery made it a great commercial success. Most new manufacturing plants have what might be called "children's diseases." The plant cost more than was anticipated, or it took longer to build than was anticipated, or the first machinery that was installed did not work satisfactorily, or it was necessary to install other machinery to dry or shred or grind, or there was delay in getting the product introduced. Even in the case of a staple standard product or a business that has been in successful operation for years, there are almost certain to be periods of depression. This is a great country in which the tide of business rises higher and higher, but it has its periods of ebb. The business which is so capitalized that it can live through a period of depression will, when the period of prosperity comes, reward those who have waited for it, but the business which is handicapped by an annual fixed charge goes to the wall before the "boom" comes, and the unfortunate investors in its securities are wiped out. Therefore, the interests of both operators and investors require that no such burden be placed upon the business, or that the burden be made so light that it can be carried in even the worst of times. This means that the investor should be given preferred stock, upon which dividends may be passed if there are no profits, rather than bonds which call for interest in any event and for foreclosure if there are no profits to meet the interest.

The next thing to be borne in mind is that there should be some flexibility about the financial plan. It is bad practice, for example, to make an issue of $100,000 preferred stock, with a provision that no bonds or additional preferred stock can be issued without the consent of all or a large majority of the holders of the original preferred stock. This puts it within the power of a small minority, or even of a single stockholder, to prevent the corporation from securing additional capital that may be needed for the development or even for the preservation of the business. If $100,000 is sufficient for the original investment, the authorized issue of preferred stock should be made at least $200,000—preferably $500,000—with provisions that the additional stock is only to be issued by a majority vote and for actual value. This takes care of future growth. Many public utility companies in this country have actually been wrecked by their success. The communities in which they operated grew and it became necessary to extend tracks, pipes or wires. There was, however, a closed first mortgage and no additional money for these extensions could be raised except upon a second mortgage, and second mortgage bonds were not marketable. The inevitable result was a denial of service, arousing the ill-will of the community and ultimately wrecking the company.

The investor who puts his hard cash into a business which he knows little or nothing about and which someone else, who is supposed to know all about it, is going to operate, is entitled to a preferred status. He should therefore be given stock preferred both as to assets and dividends. These dividends should be cumulative, so that if for a period of a year or more he is obliged to forego dividends, because the earnings are insufficient or because they are needed for the extension of the plant or for additional working capital, he shall receive these dividends in some subsequent year. The dividends upon preferred stock, however, are usually limited to 7 per cent, and where an investor makes an investment of such a character that he is likely to lose 100 per cent, if the business is a failure, he is fairly entitled to expect more than 7 per cent, if it is a great success. This situation may be met by making his preferred stock exchangeable, at his option, into common stock. If the company is earning enough to pay 7 per cent upon its preferred stock, and 10 per cent or 20 per cent upon its common stock, it is only fair to give the investor the right to forego his preferences, to become practically a general partner and to get his share of the larger dividends.

There remains the question of the proportionate interests of the investor or investors who contribute capital, and the operators who contribute knowledge, experience and work. It is impossible to say what this proportion should be, because it varies with the individual case. Where the investment of money is small, the contribution of experience large, and the business of a stable character, the investor's interest may fairly be made small; but, as the amount of his investment increases and the risks incident to the business are greater, his interest in the profits should increase, though never to the point where the operator's incentive to make the business a success is paralyzed by a feeling that he is simply working to make profits for someone else.

Something should be said as to two other classes of cases—first, where an operator is himself prepared to contribute a half or more of the cash invested; and second, where money is needed for the extension of a plant which has both a substantial cost or replacement value and an established earning capacity. In the first instance, the amount of money which the operator needs to secure from the investor may be so small that he can safely give the investor bonds to secure his investment, such bonds being further secured by a sinking fund, or issued in serial form with a certain proportion maturing in each one of a period of years. If bonds are issued at all, they should certainly either be in a serial form, or provide for a sinking fund. It is inexpedient for the operator to have a mortgage for a considerable amount which falls due on a certain date. If his business has not been successful, he will probably not be in position to pay it. If the business has been successful, he will have need of all his money for extensions or additional working capital, and in either case the retention of his ownership is dependent upon his ability to secure an extension or renewal of the mortgage. Sinking funds are, as a rule, more expensive and less satisfactory than the serial repayment of bonds. In such a case, it is generally better to issue notes or bonds secured by a mortgage, with one-fifth or one-tenth of these notes or bonds maturing in each one of a period of five or ten consecutive years. The first maturity, however, should be several years from the date of issuance, to provide for the delays that may occur in realizing the anticipated earnings. If the additional capital required is more than it is prudent to put in the form of a fixed obligation, then recourse had better be had to the preferred stock plan. Such preferred stock, if sold at or below par, may very properly contain a provision providing for its redemption, at 105 or 110. Inasmuch as the operator in this case contributes not only his experience and skill, but also the major part of the investment and postpones returns upon his investment to returns upon that of the investor, he is justified in expecting the latter to take bonds or preferred stock upon a much better basis than if the investor were contributing the entire cash investment.

In the second class of cases, the operator is entitled to still more favorable terms, because an established earning capacity is the most valuable feature of an industrial investment. In an investment of that class, the cost of a plant is a comparatively minor feature. An investor is foolish to make an investment in a plant which may be duplicated by a rival at a materially lower cost, but on the other hand there may be an investment of $100,000 which has no other value than its value as junk if it is not capable of earning money. Where an operator is in position to demonstrate that he has invested, for example, $200,000 in his plant; that both buildings and machinery have been kept up to date and are in no sense obsolete; that they could not be duplicated for less money; and that the plant has an earning capacity, as demonstrated through a period of average years of (say) $50,000 a year over and above the expenses of management; and he wants to secure $100,000 additional capital for extensions or improvements which will increase the earning capacity of the plant, he is entitled to expect that he will be able to get this money upon very reasonable terms. In such a case, the investor is dealing with an operator who has had actual experience in running a particular business at a particular place, and has shown not only that that business can be run in that place, but that it has been productive of large profits and may reasonably be expected to continue to make at least equal profits. The investor is therefore relieved of many of the doubts and uncertainties attending an enterprise which is new and untried as to either product, location or management.

It is hoped and believed that the above observations cover most of the fundamental points, but they fall far short of covering the whole subject. There are many risks of business which ought to be taken into account of which no mention has been made. There are many articles for which the demand may be local or temporary; and the business of manufacturing such articles is "extra-hazardous." A business which sells its product to a very few persons does not occupy so strong a position as one which has a multitude of customers. A business whose product is sold through a selling agency, without the identification of the manufacturer with the product, is less strongly intrenched than where there is such an identification. More important, perhaps, than anything else is the question of management. It is often said that a good manager will do better with a "yellow dog plant" than a poor manager with a good plant. The manager, however, may die, resign or become incapacitated. Reliance upon a single manager would therefore be reliance upon a very uncertain foundation. It is not a question of the manager, but of the management. It is said to have been one of Andrew Carnegie's rules to have an "understudy" for every man of any importance in his organization, this understudy being trained in the general methods and principles of the organization, so that the organization and its management could go on continuously, without regard to the life, health or inclinations of individual employes. An established business gets a reputation among both employes and customers for fair dealing or the opposite. A reputation for fair dealing is a real asset. Where advantage has been taken of employes or of customers, large profits may be shown for a brief period of time, but a liability is being accumulated which will sooner or later become manifest. There are many items that do not show on the balance sheet.

# Building a Sales Policy

By JOHN M. BRUCE

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THE Taylor System, as applied to production or distribution, means more than a careful study or analysis of the motions that must be gone through to produce, with the least amount of effort, in the shortest possible space of time, the results desired, and then have adequate payment made for those efforts.

## THE PHILOSOPHY OF THE TAYLOR SYSTEM

Mr. Taylor evolved a science of shop management based on a theory of philosophy. When attempts to install the Taylor System of shop management are made by those who have read the science from Mr. Taylor's manual—and it is mighty hard reading—without securing the real underlying philosophy, the result is always as disastrous as it would be if we set a high-speed, steel cutting tool to work without a guide. We would cut a lot of material, but we would also destroy a lot. We can do just as much cutting, maybe more cutting, without as with the guide, but we won't produce anything.

The philosophy of the Taylor System is absolutely basic and fundamentally sound. It is applicable to every type of industrial effort. The application of that philosophy is a science, and a highly technical science, based on certain specific laws as laid down by Mr. Taylor and demonstrated by the illustrations in his manual of shop practice. The man who attempts to install the Taylor System without a broad and understanding knowledge of the Taylor philosophy, without a comprehensive grasp of the principles underlying the science of the Taylor System, is courting disaster.

The Taylor System is not, and never can be made to work by forcing the business to meet the cut-and-dried rules such as are illustrated in Mr. Taylor's manual. Mr. Taylor never did that himself. The illustrations he gives are some of the applications he made where a particular type of installation was the type exactly fitted to solve that particular company's own problem. The man who tries the cut-and-dried system will empty the coffers of his company just as rapidly as a preacher would empty the pews of his church if he tried preparing his sermons with a rubber stamp.

It is folly to ask a laborer in the foundry cleaning room to wait for a share of the profits until the finished product of the factory has been sold—yet this has been done. Offers have been made to laborers in the foundry that, if they worked hard they would share the profits at the end of the year. Although a laborer might do his work faithfully and infinitely well, still in other departments of the business, over which he had no possible control or even knowledge, the proposition might fall flat. You cannot pay a man in a lower place in business for work over which he has no control. You can pay him for what he does himself and reward him immediately for his effort, and you will get the effort you want. You will not get it in any other way.

The difference between the man who earns a daily wage and the man who earns a yearly income is only to a very small degree a difference of intellect. Professor Scott and a good many others after having brought to bear on the subject the best psychological study, believe that the difference between the intellects of the average normal men, the intellectual power, is only about ten per cent, at a maximum. The huge difference between men is not in intellect, not in brain capacity, but in imagination. One man can see a reward and work for it if it is an hour away; another man can see a reward and work for it if it is five years away, or ten years away, or a lifetime away; and you can measure a man's capacity for achievement by the distance he is willing to place between himself and his reward. Maybe it is by the square of the difference.

Every time the Taylor System has been put piecemeal into a factory, it has overbalanced the department into which it has been put, and the result has been worse than no Taylor System. You cannot speed up one end of the business and not speed up the whole business. People do not seem always to realize that you have to coördinate a proposition of that kind. You cannot start a high-speed tool working in one department and not in all departments. You have to sell the philosophy of the proposition to your whole institution before you can apply the science of the proposition to any part of your institution.

When we apply the Taylor System to a sales department, a distribution department, we have to go back before the beginning. We have—to use an Irish "bull"—to go back and start before we start. We have to find out where we are, where we are bound for, what we want to do and what it is going to cost us before we try to do anything.

The average steering of the business ship, especially the sales ship, seems to partake of issuing orders to a sea captain, taking his chart and his compasses away from him and saying, "Go outside of Sandy Hook and sail now—sail—sail! All we want you to do is to sail." These are the orders lots of salesmen get. They don't say "sail"—they say "sell." They are told to go outside of Sandy Hook and sell. The ship that goes outside of Sandy Hook and sails and sails and sails is going to land on the rocks, and so is the sales department that guides its salesmen in that way. The end of one is just as certain as the end of the other.

### THE SPECIALTY MANUFACTURER'S AVERAGE PROFIT

Take the case of two large and eminently successful specialty manufacturers. They were making a large line of office appliances, and when asked what branches of their business paid and what branches did not pay, they said, "Oh! everything pays." "How do you know everything pays?" "Why," they said, "We know how much money we get in and we know how much money we pay out; we take all the costs and we allow enough for a depreciation in the factory, and then we subtract the amount we paid out from the amount we took in, divide it by the total number of goods made, and that is the average profit." That is the average business way of looking at it, but it is not the average profit or anything like the average profit.

On a very large percentage of the products that those people sold they took in exchange goods, that is, used material, at a very large price in order to stimulate a new sale. After some weeks of explanation and argument those gentlemen were finally convinced that every one of those sales was made at an absolute loss. In other words, over half of their business was done at a loss and the other half carried an outrageous profit.

Now as long as similar line concerns were doing this, it was all right—or rather it was not all right, but they were all fairly safe, because the whole industry would not be likely to go to the wall. It is mighty hard for the whole industry in any line to go to the wall, and if nobody in the industry knows how to steer the ship they are all pretty nearly on the same basis, and they are all likely to arrive at a reasonable amount of profit.

### IMPROVEMENTS IN A RUBBER COMPANY'S BUSINESS

A large rubber company that has grown as fast or faster than any other company in its line in the United States decided to call in an outsider to look over the business and see where there was any room for improvement. The consultant was told before he went in that what the officers of the company for the most part really wanted was a gold badge that there was not anything wrong, that the thing was perfect. But they did not get that. The president, the man who decided on the investigation, got what he wanted—the disagreeable facts. The most surprising development in analyzing the proposition was to find the enormous number of orders, even in proportion to the very large amount of business these people did. They had a business that was absolutely wholesale. They sold no goods at retail whatever. They sold through the dealer, even to the point of refusing to sell to their own board of directors. Further investigation disclosed, for example, a customer of theirs, a wholesale customer, whose business ran about four thousand dollars a month. In one month's accounts examined he had bought six hundred separate items from them. There were six hundred separate charges to make up a total of four thousand dollars. It was necessary to ascertain the unit cost on what it cost to handle each charge through the books of that company. They were doing it very reasonably. They had an efficient bookkeeping department, and they were making each charge for a dollar twenty-eight cents, which is a low cost. You may think that was high, and it is generally considered high when mentioned, but if you will make a unit examination on your own charges you will find they are higher, nine times out of ten.

In trying to find out why they had six hundred charges from that man with a four thousand dollar account—why he should buy six hundred items in one month—it was found that they had established a very scientific practice of demanding that their dealers carry a stock of their products in order to get the advantage of the trade discount, and they made each dealer stock up at the beginning of the season. But they never said anything to the dealer about continuing to carry stock.

It was the custom of that trade to give service. Each of the houses in that industry had originally been retail houses, dealing direct with the consumer from the manufacturer. The concern in question had seventy branch houses for the purpose of retail trade in every city of any size in the United States. When they decided that the trade had grown sufficiently, so that it was a better policy for the trade to handle their product than for them to handle it direct, that the trade had stabilized to that point, they still maintained their retail equipment and retail service which they had been perfectly able to maintain at the retail price, and gave the benefit of it to the wholesaler. The wholesaler bought a stock according to the size of the town in which he was located and according to the territory he covered, as they asked him to buy at the beginning of the year, and then he never bought any more stock. He just picked it up as he sold. For instance, this man that had the six hundred orders in one month stated: "I have a stock clerk who fills all our orders that come in from consumers. If a customer comes in and buys a box of tire patches for twenty-five cents we deliver them to him, and our stock clerk goes to the telephone and calls up the company's branch, and they send over another box of tire patches. We keep our stock automatically. It is a cinch."

This was reported to the officers of the company and they were shown that on any order below a certain number of dollars, one dollar and twenty-eight cents took all the profit and made it a loss. It was also discovered that forty per cent of all the orders that concern received were executed at a loss.

"Well," they said, "of course, that is necessary. It is the custom of the trade. Everybody does it. If we didn't do it we would be annihilated. Everybody gives that kind of service to the dealer. We deliver to him any time he wants."

He was not talking about the "*customs* of the trade"; he meant the "*superstitions* of the trade"—he was using the wrong word. Look in the dictionary.

When corrective measures were offered, finally, after a great amount of argument they said, "All right, go ahead and try it that way." It was tried out in one city, not giving the dealer any special inducement, and simply a letter written to every customer they had in that city telling him these facts: that forty per cent of all the orders given the company were taken at a loss; that they could not afford to do business that way, and they knew he did not want them to go on doing business that way; that he wanted them to make money, even as they wanted him to make money. They went on to tell these customers that they only asked them to pay their bills once a month. It made no difference to them whether they bought ten orders a day or one order a week, and that if they would take a little pains with their stock they could order less frequently.

The cost of selling, which ran at a certain percentage in that trade, was analyzed and the salesman, who had been on a salary basis was placed on a commission basis, that is, a task and bonus basis. It worked out scientifically. We will say the original cost was two and a half per cent for selling. Under the new plan, if a salesman brought in an order for less than a hundred dollars in a large city, he got half of one per cent; if the order was from one hundred to two hundred fifty dollars he got one per cent; from two hundred fifty to five hundred dollars, two and a half or three per cent; above five hundred dollars four per cent; and if it was above a thousand dollars he got five per cent.

They paid twice as much as before for the kind of orders wanted—the orders above a thousand dollars—and paid almost nothing for the orders they did not want.

At the end of sixty days this concern was doing a twenty-five per cent larger business in that city. They had had six automobile trucks, with two shifts of drivers on each truck, making their deliveries. At the end of that time they had three automobile trucks, with one shift of drivers on each truck working eight hours a day delivering twenty-five per cent more goods. They delivered to the north side of that city twice a week, to the west side of the city twice a week, and to the south side twice a week, and when a man called up out of time they delivered by express at his expense.

There was no trouble about it. They did not lose a customer. A good many of the customers said they wondered it had not been done before. That was all that occurred to them. Now, that is the difference between allowing a thing to go on because it is the custom of the trade, or the superstition of the trade, and stopping it; and it can always be stopped.

## EXPERIENCE OF AN AMMUNITION CONCERN

Another interesting thing happened a little while ago with a tremendously successful and very large concern in the ammunition business. One of that concern's lines was making shot-gun shells. They wanted to secure the services of the best motion study expert they could get hold of to speed up the transfer of machines from one kind of loading to another. They said, "We have eighteen thousand different changes in loads that we sell regularly in our plant here, and every time we change a load to fill an order we have to stop and reset the machine. We have made a study of it and find that our machines are out of use and are not loading forty per cent of the time. They only load sixty per cent of the time, and they are idle in change forty per cent of the time. If we could speed them up we might arrange to cut it down to twenty per cent."

Upon inquiry as to how many loads are necessary to cover all the kind of game that are shot, after figuring out the number of loads and also how many kinds of powder were necessary and the other things that a customer had a legitimate reason for buying, the result was less than a hundred loads instead of eighteen thousand. Then a basis was worked out by which a customer could get the standard loads at the standard price paying a little excess for the special loads. They put five machines to work on the special loads, and the other three hundred and ninety-six machines on standard loads, set permanently, so many different machines to each load, according to the class of loads that were wanted. So, instead of doing a lot of work to save time in making the changes, they did something else, they eliminated the changes.

## THE DIVIDEND MENACE

The writer wants to pay a tribute to one of the brightest men he ever met. He would not like it if we mentioned his name, but he is the president of the self-same rubber company mentioned before.

When the writer went there, unlike his associates who wanted a medal for their brilliance, he said: "Our business has grown a hundred times in twelve years. Nothing ever grew so fast as that that didn't grow as soft as a mushroom. It is fine; everybody in the trade is getting more orders than he can fill and conditions are lovely, but they won't stay that way. When it comes to hard times, when it comes to where everything has to be cut the chilled-steel tool is the only one that is going to last. The mushroom tools are going to wear out. I want mine chilled. Just let's case-harden this company and cut the waste and the soft spots. You are here for a surgical operation on a successful company." There are mighty few men who would have brains enough to talk about surgical operations in the face of dividends. Dividends are the greatest choker of ambition that there is in the world. As a matter of fact, the principal reason you are paying dividends is because your competitor does not know any more about his business than you know about yours. There was a concern that paid dividends because they marked up the price of their second-hand goods every year—the price of stock on hand. They paid dividends for seven or eight years on that. Then the bankers took what was left over for reorganization.

It is interesting to see how many different "slants" there are on the business problem. You can watch the wheels go round on the inside of a great many different businesses, and never see two businesses with the same problems. There is a problem in every business and every problem is a different problem.

## SALES MANAGEMENT IN A PACKING BUSINESS

For instance, there was a packing business that had grown tremendously. They started in with canned meats. They saw an opportunity to buy out another concern and get into the condensed milk business, and they made money. They told their canned meat salesmen to sell condensed milk. As soon as they got condensed milk they got a new sales manager for the condensed milk line. The old salesmen looked around and said, "Who is setting the pay for us? Who O.K.'s any increases in salary?" They saw it was the old sales manager who did it. The new sales manager said, "You have to sell condensed milk"; but the salesmen went right ahead and sold what they were paid for selling and let the new sales manager talk, and whatever he said seemed to hit something and bounce off—just seemed to bounce off.

They got a California fruit proposition and added that to the line, and they got a sales manager for that. Then they bought a vegetable proposition, and a Hawaiian pineapple proposition, and eight or ten other lines, and finally they had eight or ten sales managers. The new sales managers could not get the old sales force to do their work, and they began demanding sales forces of their own. Some got them and some did not, according to the "pull" they happened to have with the institution. The condensed milk man had a big "pull," and he got a hundred salesmen. The California fruit sales manager was not popular, and he had only twenty salesmen. They had five hundred territories that they ought to have covered, and they had four hundred salesmen covering them, many of them overlapping.

The cost of getting orders in that business was very low, much lower than it is in most lines, because it was an established trade. They had established relations with their customers, and practically every call of the salesman resulted in an order. Just think what we would do if that were so in the specialty business. But only four per cent of those orders had more than one product on the order, and only two per cent had more than two products on the order, and half of one per cent had more than five products on the order, with a company having about twenty-five lines. Moreover, the salemen were all working against each other, because the great problem in the grocery trade is the credit ability of the little grocer. The canned meat man, having a good staple line, would go in and sell ten cases of canned meat, and the grocer was out of business for a month, as far as credit went with the house. They never thought of how much better it would have been to sell him one case of canned meat and one case of condensed milk and one case of pineapple and one case of asparagus, and one case of something else and get repeated orders. Nobody ever thought of that, and if he had, they would have said it could not be done.

Well, when they began paying the salesmen at the rate of a quarter of one per cent for an order made up of one product, at five per cent when it had four products, and ten per cent when it had seven products, they began to get the orders with seven products. It would surprise you how those orders came in.

It could not be done; but it was done, and the cost per sale dropped 'way down because the cost per product dropped 'way down.

The cost per sale in that business was a dollar and eighty-seven cents, including the salesman's salary and traveling expenses and the overhead, and it might just as well have covered five or six products as one product. It did not make any difference, he had to make the call just the same. They could save a lot of money under this plan because they cut out a lot of that traveling.

As soon as they had this plan working they abolished all the overlapping sales forces; the country was redistricted and the sales managers of the various lines were made district sales managers with one general sales manager and the proposition was worked out with very much smaller territories for each man. Each man covered his trade and saw that that trade had a complete line of that company's products which his class of customers could use. He stopped being a salesman and became an adviser and helper of his customer. He did advertising work and backed up the advertising department by the proper kind of distribution work rather than as a star salesman.

## THE PROBLEM OF THE TOBACCO MANUFACTURER

In the tobacco business the problem is not a problem of the size of the orders. It is a problem of distributing the product and getting it where it can go to the customer the instant he asks for it, and getting it to him fresh. All of the tobacco manufacturers of any repute have the practice of taking back any product that any dealer has ever bought from them, at the price he paid for it, at any time rather than allow that dealer to sell what are technically known as "funky" goods to the public—that is, stale tobacco—and they are right. Every time that you are convinced by advertising that you should smoke "Darum" cigarettes the company has invested about seven dollars in convincing you, and it costs them only about ten cents to take back a stale package of "Darum" cigarettes rather than let you buy them. If you buy a stale package, you do not say, "That is a stale package." You say, "Darum cigarettes are rotten."

One of these tobacco manufacturers wanted their salesmen to do a lot of different things in the dealer's store. They wanted them to arrange the dealer's shelves, to make an attractive display of their product, to put their lines where they would be featured and where they would catch the public's eye. They wanted the salesmen to put up advertising matter in the dealer's store. They wanted the salesman, most of all, to demonstrate their products. They told the salesmen all these things, and paid them for the quantity of sales; and the company kept on getting volume, but the salesmen slept on the other stuff. That was the history of the business.

There was one brand of world-famous cigarette tobacco, you all know the brand—which began to slip about five years ago. Everybody wanted to know why. This brand was the bread and butter of the company—and cake, too. Nobody knew why it was slipping, but everybody had a different theory. There was a very easy way to find out, just by preparing a questionnaire and sending it out to the salesmen and getting answers. The salesmen were paid five cents each for the answers and twenty thousand answers were received in three weeks. These were put on the Hollerith machine, and the big question was answered in about two hours. The answer was that the men under twenty-five did not know how to roll the tobacco into cigarettes. The five cent cigarette had come along since those men started to smoke and they had never learned to "roll their own." They then began paying the salesmen for what they wanted them to do—teach the rolling of cigarettes. They paid for every effort they wanted the salesman to make, after studying how much time that effort would consume and how much it would produce for the company, and the desired results were obtained. There is no other way to get them.

## THE TYPEWRITER BUSINESS AND THE EXCHANGE PROBLEM

In the typewriter business the problem has always been the exchange problem. Everybody said it was the curse of the industry, but the salesman was paid his commission on the exchange allowance value of the second-hand machine and the cash he brought in. You never saw a salesman who would not rather buy something than sell something, that is, it is easier to buy than it is to sell, and when you buy a second-hand machine and give a new machine for it, with a small amount of cash thrown in, and get the same commission, which would you do? That is what the salesmen did!

They not only did that, but automatically that meant that if the room you are in represented the field where the second-hand machine was and the whole area of New York City represented the area where no machines were, where the salesmen could go out and create a new sale, they stayed in your room, and all the competitors' salesmen followed each other. One competitor's salesman followed another competitor's salesman around the rat chase to try to take a prospect's old machine away from him and give him a new one in place of it, because the salesman got his commission on it, and it was easy money. Just as soon as that practice was eliminated and a penalty put on the trading in of second-hand machines, and the salesmen given a reward for the cash sale, exchange sales dropped in three months from seventy-one per cent to twenty-two per cent.

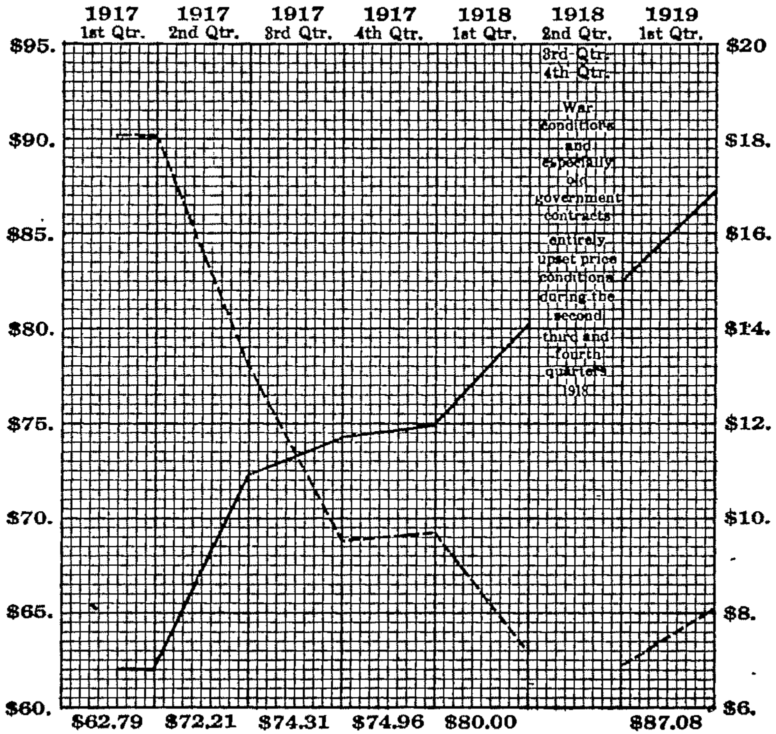
## THE IMPORTANCE OF CALLS IN SALESMANSHIP

In every success in selling that the writer has ever had anything to do with, the basis of that success has been in the number of calls that a salesman makes. You cannot make sales unless your salesman makes a call. He has to see the people and interest them in what you are trying to sell. Everybody holds up his hands in horror at the idea of paying a salesman for making calls, but that is what you do when you pay him a salary. Regular salaries do not stimulate a salesman to his best efforts. It is better to give him a drawing account and pay him so much for every call he makes against that drawing account.

You can send out a circular in an envelope for ten cents apiece, and the destination of most of these circulars is the wastebasket. Why not pay your salesman ten cents to call on a man, and say, "Mr. Jones, I am from So-and-so, and I want to talk to you about so-and-so"? It is worth more than the circular, because it does not get thrown in the wastebasket, because the man has to listen to him to that extent. You do not pay unless he says that to the man. If you can teach a man what to say about your product, I do not care what your product is, and you can make him go through the motions of seeing people and making that statement about your product twenty times a day, there is not any product

## AN ILLUMINATING SALES SCORE CARD

Showing hcw a typewriter company increased net return on the average sale by enlisting financial interest of salesmen



in the world where he will not connect with some sales. You cannot continue to expose yourself to the disease that often without getting measles.

There was a salesman down in Louisville that had been hanging on by his eyebrows. He just sold a minimum amount of goods—enough almost to justify his drawing account each month, and, of course, with the old drawing account system, which is a horrible handicap to a man. He starts out in debt to the company fresh every month, and the first three quarters of the month's work he is just making up a debt and, oh, how we love paying debts! This is the position you put your salesman in when you work under that plan.

The bonus system was all figured out and the salesmen were told: "You haven't got any debt to pay. All you have to do is make calls. If you make enough calls and demonstrations the price of those will pay your drawing account in cash, and all the commissions you make on sales will be 'velvet.' Of course, the commission is a little smaller, but you ought not to mind that." Now when they were told this the "wise guys" did not believe it. But the man we are discussing, not being very smart, believed it. He went out and believed he could make money that way.

He went to the tallest office building in Louisville and started at the top. He walked into the first door he saw and said, "Mister, want to buy a ——— typewriter?" and the man said "No!" He went to the next door and said, "Want to buy a ——— typewriter?" and the man said, "No!" He made eighty calls a day that way, and was paid for them. The first month he made nine sales. That was more than he had ever made in a month before.

Some of the people in the company were very much concerned and thought the salesman was being paid a tremendous commission for those sales. However, they were assured there was no cause for worry and induced to let the experiment run along. The next month the people that fellow called on began to call him up. Remember, he was a rotten salesman—he is yet—but they started taking machines away from him. There were people who said, "Yes, I want a typewriter. I haven't seen a salesman around here for ages. Come in, for God's sake, and let me buy it," and he sold those people. The second month he had twenty-eight sales, and he has been averaging over thirty sales ever since.

Thirty sales a month is pretty good, and he has done it just simply because he has exposed himself to the sales.

### REWARD FOR SALES

After one has worked out a system for making a salesman call on prospective clients and pressing the argument in favor of the merchandise the next step is to decide on the most profitable lines of trade, and stress the reward for sales in these lines, so that it will be easier for the salesman to make money doing the thing that will be difficult than the thing that is easy.

For example, it is, of course, easier to trade out an old machine at a large allowance and sell a new machine, thus securing only a small cash difference, than it is to make a straight sale of a new machine for all cash; but, if the reward to the salesman is scientifically adjusted so that the salesman with the same effort will make more money on straight cash sales than he will make on many more of the easy exchange sales, the salesman rapidly finds that the way to make money is to go to the places where typewriters are not placed and create new business rather than follow a competitor's salesman around from one office which is stocked up to another trying to get out exchanges.

It is on this basis that the bonus system has been worked out for the sale of typewriters and the results are shown in the accompanying chart (see page 299).

That is all there is to the Taylor System, just common sense, just finding out what you want done, getting a policy outlined, deciding just how much effort is required to execute the various steps of that policy, and then paying for those steps on a square and just basis to your salesmen. In that way you are bound to get results.

The acid test of any business policy, in the last analysis, is this: Is your business policy square to your customer and profitable to your salesmen? Is it square to your salesmen and profitable to your house? If you can answer those questions in the affirmative there is not any business policy that can possibly fail. Absolutely, it cannot be done. You cannot answer these questions in the affirmative and have your policy wrong.

# Development—The Strategy of Industry

By W. S. Carpenter, Jr.

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THERE should be no need for introductory remarks to a chapter on promotion or development. Both words spell progress, and progress is the slogan of our business world today with its constant search for the key to new doors of opportunity.

The modern business organization, large or small, will make progress in exact proportion to the amount of foresight shown by its directing forces. This is so axiomatic that its repetition would be without excuse but for the fact that the business history of the world records many instances of decay overtaking once prosperous industries merely because their executives failed to march in step with the times. While it seems primary to repeat that the incentive to invest capital is to secure profit on that capital, it is not unusual to find instances not alone in individual companies but even in entire industries, where the administrators have considered as their object the securing of what they believed to be a reasonable percentage of profit figured on the selling price of their product, and have lost sight entirely of that all-important relation between profit and invested capital. It is perfectly obvious that this relation can be the same only in case the yearly turnover is equal to the invested capital, whereas in fact, the annual sales may vary from the fraction of the investment in one industry to several times it in another.

"Promotion" as used in the business world today has many applications. It usually means the expansion of sales, the searching out of new markets for the established output and the devising of new ways to reach these markets. Often it means little more than advertising. But a discussion of this subject along these lines would leave untouched the largest meaning of the word—the definition which points a way to hitherto untried, though related, lines of business or to the development of new ideas to be applied to lines already established. With this meaning in mind it would be well to change the title to "development" instead of "promotion," and follow the new lead into a line of endeavor, which, though as old as business itself, is yet so new that its relation to present day industrial expansion is worth most serious study.

New processes of manufacture fall naturally into the hands of a development department if these processes be outside the field of regular operative work—not if they be merely the natural continuation or evolution of a standard operation. When a gap exists between accepted methods or processes and what is thought to be an advancement, a development department should attempt to bridge this gap. In such a case the operating department (in the case of a large organization) or an individual (in the case of a smaller concern) will probably be the first to see the possible opportunity. A detailed investigation conducted by the development department will determine whether the suggestion should be adopted. Improvements developed by the outside world which, although originating from other directions and perhaps from business foreign to that of the industry in question, can be advantageously adapted to the latter. This class of improvements should belong to a development department.

It is not enough to see that plant machinery is kept up to date or that plant product is brought to a higher standard; nor it is enough that the sales department should be progressive or the industry's accounting force should know the latest short cuts; it is not enough that there should be constant research into all branches of every industry.

Development, in its best business sense, must be the opening up of new lines of activity radiating from a common centre—the searching out of new sources of supply—the devising of new methods—the solution of economic problems in a way to make two dollars grow where but one grew before. It is hardly possible to think of a development department springing full-born from the loins even of "big business." It is in its very nature a gradual process, blazing the trail, pioneer-fashion, into new industrial worlds.

One speaks best when he abandons the field of theory and talks from the book of his own experience. Possibly references to the experience of the du Pont Company with its development department may be pardoned if they be made as example of what has been accomplished.

A great many centuries ago the Chinese made gunpowder of virtually the same ingredients of which it is made today and in much the same way; yet hardly a month passes that some improvement is not adopted, increasing the output, decreasing the cost or making for greater safety in the manufacture. The world, however, would have been ground under the merciless heel of the Hun had the powder industry stopped there. Developments along new lines made possible the perfection of modern explosives which kept the world safe for civilization. Chemical research and the development of sources of supply for raw materials were followed by the development of new outlets for finished products. When war came the world turned instinctively to the American manufacturers whose industries had been "developed" rather than "promoted."

The story of the making of munitions—and it is a term which includes thousands of products other than explosives—is indeed a business romance and the characters which figured in it are American business men who now stand ready to put the same energy into the development of peace-time products.

Development departments, growing out of the necessities of war, are destined to play a vital part in the business of the future. Such a department may well be described as a clearing house for business ideas. It must be receptive and analytical. Suggestions come both from within the organization and from without and each must be given the most careful consideration.

That class of improvements which comes from within the organization is but a step forward along the path of daily routine, and is naturally suggested by that routine. This class should properly belong to the operative department from whence the initiative must of necessity come.

But there comes another class of improvements whose inception takes place outside the industry; improvements developed by the outside world which, although originating from other directions and perhaps from businesses foreign to that of the manufacture of powder, can be advantageously adapted to the latter. This class of improvements should belong to a development department.

The duty of any development department, therefore, should be to keep in close touch with the general state of any art or of any device which by adaptation could add to efficiency or profits. The full measure of value cannot be obtained from such a department without hearty and interested coöperation on the part of all other departments of a company; hence it would be the part of wisdom for a development department, in taking up some new study, to assure itself first that in the event of its success the matter would be of interest to that particular department to which it would ultimately go.

When the development department decides it is wise to take up a new subject, the matter should first be discussed with whatever production department would be most interested in its outcome, and then it should be agreed between these two departments whether it is properly a subject for the development department's attention. If settled affirmatively it should be undertaken by that department and the control of the same left in its hands and under its supervision until the study has been completed. If decided that it should belong to the production department, it should be either left to that production department, or, if conducted by the development department, only conducted at the request of the production department. It should be understood that all work delegated to a development department should be conducted under the control of that department, and all other departments should be instructed to forward to the development department any points of interest that may be gathered bearing upon the problem promptly and without any other action upon the part of such departments, unless by request for further assistance from the development department. This to prevent duplication of work, and to leave the development department properly unfettered in its own conduct of the study.

Having outlined the relation of such a department to the industry in general a word as to methods may be fitting. Each case demands individual treatment, but there are some general lines to be followed in all cases.

The first test of the worth of a suggestion is perhaps its relation to the established industry. Does it fit in? Is it a radical departure or is it an expansion along already approved lines?

In developing a new industry or any new branch of an established industry, there are many angles from which the investigator must work. Is there a market for a new article; or is there a market for a large or a better supply of the old product? Most thorough and painstaking effort develops the answer. This effort must involve first of all a study of the trade conditions, the status of the industry as it is already established, the opportunities for the sale of more of the same product or of a substitute. If it is determined that there is a market, the investigation is continued to determine whether it is possible to go into the new line at a profit. Can the article be made successfully both from a manufacturing and a merchandizing standpoint?

The answer will involve investigation into all the intricacies of overhead labor costs, the availability of by-products or of new raw materials, return on investment and the hundred and one points any one of which may mark the difference between success or failure. Each of these factors must be weighed carefully, for the conduct of a business concern in these days of keen competition is an exact science. The investigation into the merchandizing end will call for the talents of the experienced sales and advertising men of the industry. But for some of the other investigations involved it will be found necessary frequently to go outside and secure the services of experts along various lines. There are cases on record where the investigation into freight rates alone has been the determining factor for or against the establishment of a new industry which, in all its other aspects, showed no business flaw.

It has been the experience of big business during the war period that one of the most important duties of a development department was the searching out of new sources of supply for materials vitally necessary in the various industries. In many cases it was necessary to develop entirely new materials as substitutes for those which could not be secured, or if secured at all, in quantities insufficient for the war-time demand. In many cases it was found necessary to manufacture or otherwise produce materials which had before been secured in sufficient quantities in the open market. The question of whether it is advisable to become a producer rather than a purchaser is one in the solution of which development departments will play a most important part in the future. To insure a regular and sufficient supply of a raw material of satisfactory quality may often warrant a substantial investment, even though the saving in its actual manufacture does not represent a very great return. Development departments will profit immeasurably by their war-time experience along these lines.

Another field for investigation by a development department has to do with the finding of profitable outlets for by-products, capital and energy. This frequently leads to the taking over of allied industries. It not infrequently happens that such industries can be incorporated into an established business and its output increased vastly, at a saving in overhead and administrative costs which makes a decided difference in the balance sheet.

It seems paradoxical to say that there are limitless opportunities for a development department to exercise its functions and to say at the same time that these functions should be exercised within comparatively narrow limits. Yet it would be unwise, even if it were possible, for such a department to attempt to avail itself of all chances for expansion offered by a survey of the business field. It would be impossible for any one department to give thorough study to everything which is brought to its attention. Selections must be made carefully before intensive studies are begun. The directing forces of such a department must be capable of going straight to the mark and picking out the most likely prospects for future investigation.

At the present moment the world stands ready for reconstruction. It must have new industries and new products. It will never be satisfied with the old order of things and it must be up and doing. The American business man has the greatest opportunity in the world's history.

We live in the most advanced period of mankind's history and have the benefit of the enormous reservoir of accumulated experience and knowledge of past generations. We enjoy now the prospects of a lasting peace, enabling us to turn away from the thoughts of war engines to those of normal industry. We are part of an organization of modern society which encourages individual enterprise. We live in the United States which in itself means wealth of resources and opportunities. We have the benefit of the enormous products of its mines, farms and industries, from which to draw our raw materials; its great network of some 260,000 miles of railroads, constituting nearly 40 per cent of the entire rail facilities of the world, by which to transport our materials and products. We have the benefit of the greatest system of public education in the history of mankind instructing daily the minds of some 20,000,000 of our youth, and great universities to train them further, affording thereby a wealth of material from which to draw intelligent manpower for our work. And we have a population of some 110,000,000 people from which to draw men and to which to distribute our products, not to mention the foreign markets.

All of these resources are available to us under a system of government, which, though organized some 130 years ago as a great experiment in self-government, has continued unchanged with marvelous success, with great traditions through that long period, permitting the free exercise of knowledge and industry in the development of these great resources down to the present day. Truly the thought of these opportunities and of their accessibility is alone sufficient to quicken the pulses of the enterprising.

This quickening of the business pulse can be converted into action through the adoption of the development department idea. It may be called by whatever name you please; the machinery may be small or elaborate as the individual industry demands; the investigations may be limited to few or expanded to many lines; but whatever is undertaken should be with the thought that a substantial business structure can be erected only on a foundation laid on the bed rock of careful, thorough research.

# Research as an Everyday Aid in Manufacturing

By Arthur A. Hamerschlag

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*Necessity for Industrial Research.* In an industrial plant the emphasis placed on production is of the utmost importance. In comparison that given to research is negligible. It too often is omitted entirely, with the result that industrial research receives neither the support nor the consideration which its importance demands.

Every industrial plant, without respect to its output, needs a department of research as an insurance for continuity of production. This department is invaluable as an adjunct of the other essential phases of manufacture. Thorough investigation of any problem affecting the perfectness of a product ultimately gives results in changes, adaptations, and improvements. These form the link between new discoveries, patents, and processes. They are not always the result of a study of the routine output, but frequently are the outgrowth of related investigations suggested by changes in the market for the production, new discoveries in other establishments, and suggestions from the fertile minds of scientists in government bureaus and educational institutions.

*Organization of Department.* The organization of the department must be carefully coördinated between the administrative, executive, and the other departments of production. Its personnel must be chosen with reference to the problems to be attacked; a few resourceful, capable men rather than a number of individuals. Its chief should have direct access to the highest official, and its function should always be advisory and never executive in its operations. This department should be one of reference, study, experiment, statistical and bibliographical; the place where questions are asked, where problems are submitted, and where troubles are discussed. It ought to be the telescope that brings into sight that which is necessary for the organization to see before it arrives, thus forming one of the most important factors in the progress of production.

*Value of Research.* We can scarcely overestimate the value of industrial research, because it forms the link between mass operations and individual initiative. A single contribution from one employe may radically affect the failure or success of a process vital to production. As a department, through its staff it maintains a perspective of each day's procedure, of each day's operations, and discloses that which may not be apparent to those who are participating as a group in the day's production. It can take time and nurse a suggestion, test it, experiment with it, study its relation to the problems of the day, and finally reduce it into an acceptable operative means for increasing efficiency.

*Production and the War.* A manufacturing plant is not unlike any other group enterprise, the extreme illustration of which confronted us in the national crisis in the recent war. The government was compelled to increase greatly its production in certain fields. Materials, processes, labor, capital, all had to be harnessed for team play. Manufacturing methods had to be quickly changed, amplified, and all the forces available were compelled to recognize that the unit of *time* was the prerequisite and most important item. To accomplish results it was necessary to overcome retardation due to tradition, established methods of equipment and organization. Available knowledge, long in our possession, but never used, had to be called into service. Short cuts to results, utilizing new and old appliances in a more effective manner, became the paramount consideration, even more important than the usual test of manufacturing enterprises, manufacturing costs.

*By-Products.* Raw materials had to be used more efficiently. The by-products of some of these materials became even more important than their peace-time uses. Space saving was a factor equal to storage, transportation, and other similar facilities. Mechanical equipment for handling supplies became increasingly important, as large numbers of men were drawn into the military service. The technically trained expert became doubly useful as he applied and used knowledge which had been lying quiescent.

*Effect on Field Operations.* No concept of those who were at the front could be executed with precision, accuracy and speed unless those far removed from the scenes of action could pour in a limitless flood of what we could produce at home. Industrial research applicable to great issues became immediately apparent.

It is unthinkable that what it has done for the nation shall be forgotten or that it shall not in a similar way become an integral part of a well organized industrial plant.

*Facilities for Department.* Industrial research, if thoroughly conducted by a suitable staff with facilities for experiment, usually brings a fresh mind upon an old problem and outside perspective on an inside process, a mass of knowledge collected outside the works placed at the disposal of those who can use it. It catches and holds half-formed aspirations for an improved product and points the way to new ventures. Industrial research provides the lens through which the vision may be focused on important phases of manufacture which otherwise would be only half-thought dreams that would never materialize into realities.

*Specifications for Materials.* Industrial research always justifies its existence and brings dividends when it attacks the composition, the use and the adaptation of materials. It eliminates waste. It provides substitutes better and less costly. Research in materials finds a use for scraps, and discarded parts. It may even discover by-products which will largely defray the cost of the original purchases. It standardizes raw materials and supplies by its investigation so that labor costs will not be added to something which must be eliminated.

*New Processes.* Industrial research recognizes the necessity for testing and experimenting with new processes, and in the study and investigation of these processes supplies the statistical information as well as the method of control, planning the routing and transportation of the finished product.

*Effect on Market for Product.* If its activities are directed outside the factory, it frequently discloses new markets which cannot be apparent in the ordinary sales organization. It provides the information on processes of manufacture which is sometimes the most effective publicity and advertising material.

*Complete Service.* No modern manufacturing plant can be fully organized unless it has a department whose functions are to penetrate new fields, correct defects, standardize processes, specify qualities and quantities of materials, study the routing and flow of the product from the entrance of the raw materials to the shipping or delivery point without lost motion or undue and unnecessary retracing of the distance to be traversed.

This department must be sensitive to the changing demands the user, reduce bulk, increase safety in transit, devise qu and effective methods of inspection, be responsive to suggesti for improvement, investigate and tabulate statistics and interp them for other departments. It must keep in close touch w the changes introduced by competitive producers, and stu with intelligence the trade journals of this country and Eur with a view to adapting and utilizing new inventions, process and methods wherever they are applicable to the conditions production.

*Personnel and Labor.* The employes of a modern manufact ing plant respond with avidity to every movement, every sci tific development which enhances and increases production, they can be instructed as to its relationship to their own in vidual contribution. One of the most notable expressions of t kind is the recent resolution of the American Federation of La on Scientific Research, which is herewith reprinted in full:

> WHEREAS, scientific research and the technical application of results research form a fundamental basis upon which the development of our industr manufacturing, agriculture, mining, and others must rest; and
>
> WHEREAS, the productivity of industry is greatly increased by the techn application of the results of scientific research in physics, chemistry, biology geology, in engineering and agriculture, and in the related sciences; and health and well-being not only of the workers but of the whole population as w are dependent upon advances in medicine and sanitation; so that the valu scientific advancement to the welfare of the nation is many times greater t the cost of the necessary research; and
>
> WHEREAS, the increased productivity of industry resulting from scien research is a most potent factor in the ever-increasing struggle of the worker raise their standards of living, and the importance of this factor must steadily crease since there is a limit beyond which the average standard of living of whole population cannot progress by the usual methods of readjustment, wh limit can only be raised by research and the utilization of the results of researc industry; and
>
> WHEREAS, there are numerous important and pressing problems of adm istration and regulation now faced by federal, state and local governments, wise solution of which depends upon scientific and technical research; and
>
> WHEREAS, the war has brought home to all the nations engaged in it overwhelming importance of science and technology to national welfare; whet in war or in peace, and not only is private initiative attempting to organize reaching research in these fields on a national scale, but in several countries g ernmental participation and support of such undertakings are already act therefore be it

RESOLVED, by the American Federation of Labor in convention assembled, that a broad program of scientific and technical research is of major importance to the national welfare and should be fostered in every way by the federal government, and that the activities of the government itself in such research should be adequately and generously supported in order that the work may be greatly strengthened and extended; and the Secretary of the Federation is instructed to transmit copies of this resolution to the President of the United States, to the president pro tempore of the Senate, and to the speaker of the House of Representatives.

*National Interest in Industrial Research.* Simultaneously with this expression of organized labor, the national government has greatly enlarged the fund for investigation and research work in the field of modern industry. This has been brought about by the intelligent and persistent efforts of the National Research Council, who have perpetuated the splendid beginning made by them during the war by carrying on their activities for the benefit of industry during the period of reconstruction.

The results of the National Research Council have been amplified by contributions made in similar fields by the Rockefeller Foundation in the field of chemistry and physics, and by liberal support from the Carnegie Corporation, which has taken a keen and timely interest in this important subject, by the Society of Mechanical Engineers through its research fund contributed by Mr. Ambrose L. Swasey of Cleveland, Ohio. With all of these agencies for the development of industrial research, in coöperation with the many similar operations in the same field fathered by universities and institutions of technology of the highest rank all over the United States, the modern manufacturing enterprise would be derelict in its duty to the economic well-being of the nation if it did not fully avail itself of all of these activities by making suitable provision for departments of industrial research in every individual manufacturing establishment.

# Publicity as a Policy

By Edward D. Jones, P.h.D.

Federal Board for Vocational Education, Washington, D. C.

THE policy of publicity of business facts is something which may be considered with reference to that inundating flood of advertising which rises with the producer or dealer and sets in steady stream toward the buyer or consumer; and with the object of promoting sales. Again, it may be considered with reference to the interchange of technical facts between specialists, which takes place through the trade papers and the programs and publications of trade associations, with the object of improving technical practice. On the other hand, it can be treated as a portion of a program of friendly personnel relations between employer and employe, promoted for the purpose of avoiding industrial unrest. Or, finally, it may be considered as a means of informing the public, and of shaping public opinion, upon those matters in which the practices of private business impinge significantly upon the public welfare, or raise a question of the violation of the community's code of business ethics. It is in a general way with the latter three of these sources of social communion, but particularly with the last one, that we are here chiefly interested.

It has been a traditional policy of American business to be generous, not only with money and opportunity and personal service, but also with information. And this has resulted, as Ian Maclaren once told us, not because the American is a better man than his European contemporary, but because he lives in a larger place. Our leniency in dealing with bankrupts, in going security, in permitting cancellation of contracts, in rendering personal service to buyers, in paying wages to learning operatives, and in keeping open house for visiting business men, is typical of many signs that America has been a land of wide opportunity.

In the first century of American industry, while establishments were small, financing simple, administration informal, and technique hardly more than a gradually expanding craftsmanship, there was little motive for secrecy; and secrecy contained no threat. There prevailed a simple, direct, local, and automatically self-regulating type of competition. When, however, the states began to construct and subsidize roads and canals, and when private railroad corporations were formed, and later consolidated, a paraphernalia of financial organization and a new art of financial warfare were invented. This was so new a thing that for more than a business generation it escaped any serious effort at public regulation.

Presently, in the nineties, and the decade following, these arts were supplemented by the use of various new arrangements for intercorporate control; and the whole, new, property-right, money-power scheme of competition was transferred for development into the field of the manufacturing industries. With monopolies or powerful alliances sufficiently developed, plans for the control of the raw material industries and for the final elimination of rivals, through the ugly devices of predatory competition, were perfected. To secure a roped-in field, for the final knockout, free from the interference of foreign competitors, the "infant industry" argument was made the staple of political debate, and an "invisible government" was created, with a national political loss, while the sustaining "sinews of war" were provided by corporate campaign contributions.

While these events had been in preparation and the modern corporation was in the process of evolution, competition had long been sifting American business men into classes, on the basis of ability. The topmost class, popularly known as captains of industry, was for the most part composed of self-made men of great physical and mental energy—restless, constructive men; doers rather than thinkers; mastercraftsmen rather than administrators; fortune-builders rather than statesmen; a fair evolutionary variant of the pioneers of settlement of the preceding generation.

Included in this class, however, there was a small percentage of more subtle calculators of value relations—pure economic men—who operated by means of complicated manipulations of corporate securities, and who were at home in the intricacies of Wall Street finance. This class clothed its operations with secrecy as with a garment.

It had been noticed in England, during the Industrial Revolution, that the most brutal employers were former workmen, who had risen to power through a harsh struggle and emerged with a supreme contempt for every one they could lick—emerged into a world of administration and property control, with the manners and ideals and restraints of which they were unacquainted. A similar phenomenon now exhibited itself with us, as a new power came into being in the hands of men unexperienced in ultimate effects. The captains of industry said to the minor capital interests they squeezed out, "Business is business"; to the individual wage-earners, over-matched in bargaining, "Freedom of contract"; and to the community and its government, "The public be damned."

It is to be admitted, as a palliating circumstance, that public opinion had applied no clear moral code to the new practices. The captains of industry overlooked the fact that, as economic power increases, it is progressively affected with a public interest. Capital instruments operated on a large scale may not be looked upon as private property, in the sense that goods which minister to private need are such, or that capital in small units in a free field, where suppliers and customers and wage-earners have normal alternative opportunities, is private property. They did not realize, at least to a degree sufficient to make them safe as agencies of social welfare, that the executive is a trustee for the capital interests confided to him, and a leader for the employers who are attached to him through economic organization.

In an age of rapid industrial evolution, a few men perfected dangerous weapons of competition, and used them in secret, with arbitrary disregard of the rights of others. They corrupted economic power, as the clique about the Kaiser corrupted political power. Into so much trouble a very small percentage of our business leaders brought us. The real defect was lack of sufficient publicity to awaken public opinion—which is our real government—and to bring perverted men to their senses by the shock of public condemnation. And so American industry, in this period of increasing material comfort, reached its moral apogee. Foreign nations began to fear the economic structures we were building; and we earned throughout the world the reputation of being unscrupulous dollar-chasers.

Fortunately, reform began as a series of scattered and dis-connected issues, and worked gradually toward a synthesis; a circumstance which was favorable to moderation. Edward Bellamy's *Looking Backward* created the brief movement of nationalism; Henry George's *Progress and Poverty* familiarized people with the concept of unearned increments of profit; Marx's *Capital*, introduced through more popular writings, created a nucleus of socialism; the literature of English Christian socialism affected a few; Thomas Lawson's *Frenzied Finance* reached many. These books introduced economic problems into the reading of the day, created a demand for literature dealing with business conditions, and set men to thinking and observing more clearly.

Populism, arising in the mortgaged middle west, almost prevailed in inaugurating us in a program of economic fallacies. As the sciences underlying the control of forest, field, stream and mine had long been quietly preparing the principles of conservation of resources, there was ready to hand a program for the far west. And then, at the critical moment, when a reunion of reform forces under competent leadership was most needed, Providence blessed us by the appearance of a great personality. Entering public life as a Sir Galahad, he demonstrated to the spirited youth of the nation that politics could be made an honorable career, and something much more than that. By him, public attention was sharply called to the threatening powers in industry, and to the activities of "malefactors of great wealth." The secrecy with which these men had invested themselves now looked like a confession of guilt; it at least greatly stimulated the imagination of the public. Then began the disagreeable but wholesome publicity of the muckrakers. State and Congressional investigations laid bare the whole miserable story. There followed trust legislation and prosecutions, laws against secret railroad rebates, the strengthening of the hands of the Interstate Commerce Commission, laws against unfair trade, the creation of the Federal Trade Commission, and many more corrective steps, which gave evidence of a public opinion aroused to vigilance.

For a considerable period, great aggregations of capital were so distrusted that legislation sought to forego the efficiencies of large-scale operation and to pass back into the primitive condition of an open market. But time has worked a substitution of personnel among business leaders, which has brought men of quickened conscience and large views to the front. Expert engineers and auditors, in the public service, have established the technique of publicity. The fear of large aggregates of capital is departing. We are swinging to the view that they need not be dissolved, but rather should be regulated in the public interest.

And so, we have entered upon a new day, as our honorable Secretary of Commerce has suggested. There never was a time when, through the discussions of conferences of business experts, so great a variety of knowledge concerning the intimate practices and policies of industry was spread before the public and the learning generation as now. Those who twenty-five years ago began the study of industry may well contrast the poverty of knowledge of that period with the present abundance. This is the means by which the professional spirit nourishes itself. The instinct of professionalism in industry has brought us, in efficiency, far in advance of anything attained by the one-man domination, under a régime of pure property interest, as represented by the captain of industry. To this professional spirit, with its scientific rule of free interchange of basic data, much may be intrusted, for it is fast producing a pride in good workmanship which will make it impossible for a representative of property right, who plans evil, to find a competent agent to execute his bidding.

In the second place, we have definitely abandoned the doctrine of *laissez faire*. The Housing Commission of the City of Milwaukee, in its report to the mayor, November 30, 1918, inserted the following general clause:

> We must not fail to appreciate the gradual change in the concept of government, which has been manifested so conspicuously in England and on the continent during the past decade or two, and to some degree in this country. Legislation relating to social amelioration, to transportation, to land improvement and development and to public health has expanded the functions of government far beyond the older concepts of government (which concerned themselves largely with restrictive legislation) and has more fully organized nations to achieve prosperity and stability because it has put the welfare of the whole above the welfare of groups or individuals.

The political party which was once the party of particularism as regards political organization (but now become the champion of solidarity in economic interest) has led us during the war in a gigantic experiment in the organization and control of industry.

Although this has been terminated, with its temporary occasion, it will for decades to come be drawn upon as an arsenal of expedients, whenever any economic interest threatens the general welfare. We have multiplied the standards set up by law, as the plane of competition. We have devised the inspecting, administering and law-enforcing agencies which give legislation effect. In its relation to the key industries of transportation and banking, and in its control of the issue of securities, government has put itself on the way to a supervision which will extend over a wide range of activities, without unduly hampering individual initiative.

In the third place, industry, in response to the temper of the times and the influence of labor organization, is sincerely addressing itself to the wage-earner. This is our backfire to bolshevism. We realize that our safeguard is the stake of the average man in the present economic order and his intelligence with reference to the functions of each factor in production—the factors of capital and management, as well as of labor and the state. Indeed, we only wish that the average man knew much more of capital formation and risk and interest and profits and cost accounts and the nature of the market and the work of the executive. These things the powers-that-were might have been teaching him in the years that have gone by.

Our safeguard is also in the new attitude of our industrial leaders, as shown by the things in which they are interested and the things they think it worth while to do. The point of view has not been better put than by Mr. John D. Rockefeller, Jr., in the first three points of the creed presented by him recently at the convention of the Chamber of Commerce of the United States.

1. I believe that Labor and Capital are partners, not enemies; that their interests are common, not opposed; and that neither can attain the fullest measure of prosperity at the expense of the other, but only in association with the other.

2. I believe that the Community is an essential party to industry, and that it should have adequate representation with the other parties.

3. I believe that the purpose of industry is quite as much to advance social well-being as material prosperity; that, in the pursuit of that purpose, the interests of the Community should be carefully considered, the well-being of employees fully guarded, management adequately recognized and Capital justly compensated, and that failure in any of these particulars means loss to all four parties (Capital, Management, Labor, and the Community).

The war has been a great common cause. It has revealed to many men the joy of a truly big aim and a truly social process of achieving it. Of the dollar-a-year men, the *Saturday Evening Post* (July 12th, 1919) has just said:

> They realize that heretofore business has fallen short, and upon returning to their local industries in the various states these men have started the diffusion of new ideas . . . all these men have seen the light. They know that the business man of tomorrow must live and serve as a statesman and trustee, not as a private individual.

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# THE RAILROAD PROBLEM
## A DISCUSSION OF CURRENT RAILWAY ISSUES

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# FOREWORD

In planning this volume of *The Annals* the editors have kept in mind the inclusive discussions that have heretofore been published in the columns of *The Annals*. The emphasis in this volume, therefore, has been placed upon the current issues as to railway regulation and the participation of labor in the management of the railroads. A number of contributors failed during the last week to present their articles, hence certain of the discussions are not as balanced in presentation as had been planned by the editors. However, the articles already printed by the Academy together with those published in this issue will present an inclusive and well-rounded discussion of the railway problem. For the guidance of our readers we give below the articles that have appeared in preceding issues of *The Annals* dealing solely with phases of the railroad problem and the names of the contributors of those articles. Other articles referring to the railroad problem can be found by consulting "The Twenty-Fifth Anniversary Index" of *The Annals:*

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Legal Questions Involved in Nationalization of Rate Regulation, William E. Lamb.

Regional Railroad Commissions: Their Relation to the State Commissions and to the Interstate Commission, J. E. Love.

# The Old System of Railroad Regulation

By SAMUEL O. DUNN

Editor of the *Railway Age*

PUBLIC regulation and private ownership and operation of railroads was the policy of the United States until the end of the year 1917. The early regulation, except in some of the states, was neither comprehensive nor effective. The passage of the Hepburn act, which became a law in 1906, marked the commencement of really effective regulation by the federal government. At about the same time most of the states began passing laws and creating or strengthening railroad (or public utility) commissions, with the result that comprehensive and effective regulation by the state and the federal governments began almost simultaneously.

Throughout the period of effective regulation, and, indeed, for years before, there was much agitation, on political and economic grounds, for government ownership and operation. Government operation was adopted at the beginning of 1918 as a war measure. The advocates of government ownership hailed its coming as the death-knell of private management. Most of the advocates of private management also thought we had seen the last of that policy. They feared the difficulties in the way of a return to private operation would be insuperable.

The country has now (in September, 1919) had twenty months of government operation. President Wilson has announced that on January 1, 1920, we shall return to private operation. No large class of persons is in favor of a continuance of government operation. The leaders of the railway labor brotherhoods are advocating government *ownership;* but even they are opposed to government *management.* They favor the so-called "Plumb Plan," under which, while the public would buy the railroads, it would delegate their management to a board, one-third of whose members would be appointed by the President of the United States, one-third by the "official employes" of the railways, and one-third by the "classified employes." This is not the place to present or discuss the reasons why government operation has proved unpopular. The patent fact is that it has proved very unpopular.

But the decision to return to private operation does not solve our perennial "railroad problem." If the government should simply hand the roads back, they would automatically be subjected to the old system of regulation. Everybody is opposed to that also. It is but stating the simple truth to say that that system as it stands today has no friends. People differ as to what its faults are; but all agree that it has great faults.

The Senate and House Committees have held long hearings on the railroad problem. Nobody has appeared to oppose all changes in the present system of regulation, while numerous plans for making great changes in it have been presented. The Esch-Pomerene bill, which it is understood was practically drafted by the Interstate Commerce Commission, and the Plumb Plan, which is supported by the leaders of the railroad labor organizations, represent the two extremes of conservatism and radicalism. Between them lie the plans of the National Association of Owners of Railroad Securities, the Association of Railway Executives, and the Transportation Conference of the Chamber of Commerce of the United States, as well as some plans proposed by individuals. It would be a great achievement of statesmanship for Congress to select the good features of all these plans and weld them into a single piece of constructive legislation.

The old system of regulation has tried to accomplish numerous purposes. The most important have been the following:

1. To abolish unfair discriminations between shippers and communities.
2. To improve railway service, and especially to increase the safety of the service.
3. To bring about peaceful settlements of labor disputes.
4. To stop financial abuses in the management of the railroads.
5. To secure low rates.

Nobody will question that regulation should try to accomplish all these purposes. There is another purpose which it is now contended in many quarters should expressly be made one of its principal objects. This is the adequate development of railroad facilities.

## PREVENTION OF UNFAIR DISCRIMINATIONS

Less than fifteen years ago the purpose for which a stronger system of regulation was chiefly advocated, was the suppression of unfair discriminations between shippers and communities. These discriminations included the giving of secret rebates on freight and of free transportation to passengers. There were also many unfair discriminations between shippers and communities in the published tariffs.

Two methods were adopted to abolish unfair discriminations. Secret rebating and the giving of free passes except to specified classes of persons were prohibited under severe penalites. The strict enforcement of these prohibitions has produced the desired effects.

The other method used for abolishing unfair discriminations has been that of requiring all rates to be published and filed with the state and federal commissions some time before going into effect, and of empowering the commissions to change unfair rates either by fixing the exact rates or the maximum rates which must be charged. Unfair discriminations in the published tariffs have been in these ways largely reduced, although not completely abolished. Experience has shown that a regulating commission, in order to enable it completely to abolish unfair discriminations, must be empowered not merely to fix maximum rates, as the Interstate Commerce Commission is, but to fix the *exact* rates, or the minimum as well as the maximum rates to be charged. One of the changes in the act to regulate commerce recommended by the Interstate Commerce Commission is that it shall be given power to fix minimum rates. This recommendation undoubtedly ought to be adopted.

## UNFAIR DISCRIMINATIONS AND ENFORCED COMPETITION

The necessity for giving the Commission authority to fix minimum as well as maximum rates, in order to enable it to stop all unfair discriminations, arises chiefly from competition between the railways. One of the anomalies of the old system of regulation has been that it has dealt with the railways both as if they were naturally quasi-monopolistic and as if they ought to be highly competitive. Because of their quasi-monopolistic character it subjects their rates to regulation by the Interstate Commerce Commission. At the same time, under the Anti-Pooling law and the Sherman Anti-Trust law, it attempts to enforce unrestricted competition between them in making rates, as well as in other matters.

In consequence there is still some competition in rate-making between the railroads. It occasionally happens that an individual road fixes a rate on a particular commodity or to a particular community which is lower than the rate authorized by the Interstate Commerce Commission and relatively lower than the rates on other commodities or to other communities. Railroads competing with this road have no means of preventing it from taking such action, since the law prohibits all agreements and combinations between competing roads. The result—whether other lines meet the reduction in rates or not—is an unfair discrimination, which not only injures the shippers or communities affected but also all the competing railways.

While the Interstate Commerce Commission should be given authority to fix minimum rates, it is now agreed by all recognized authorities that laws which seek to enforce competition in rates should not be continued in effect. These laws originally were intended to prevent the railroads from entering into agreements to make and maintain excessive rates. Later legislation having empowered the Interstate Commerce Commission to reduce any rate which is excessive, and to prevent any advance in rates which would be so, the only effect now produced upon rates by the Anti-Pooling law and the Sherman Anti-Trust law is to foster unfair discriminations.

## DISCRIMINATIONS DUE TO REGULATION

While regulation has greatly reduced the number of unfair discriminations, many have arisen as a direct result of it. This has been due to the fact that rates have been regulated by both state and federal authorities independently of each other. In numerous cases state legislatures and commissions have fixed rates which were lower than corresponding interstate rates sanctioned by the Interstate Commerce Commission, the effect being unfair discrimination against interstate commerce. In the *Shreveport case* the United States Supreme Court held that where a rate fixed by a state worked an unfair discrimination, the Interstate Commerce Commission could correct the discrimination even by changing the state rate. In order to enable it more effectively to deal with such discriminations the Interstate Commission has recommended legislation authorizing it in appropriate cases to conduct hearings jointly with the state commissions and enter a decision upon a single record which would be binding upon all affected. The measure proposed by the Commission doubtless would remedy unfair discriminations due to our dual system of regulation.

### REGULATION TO IMPROVE SERVICE

The second purpose mentioned above as having been sought by the old system of regulation, has been that of improving railway service, especially in respect to safety of operation. The attainment of this object also has been attempted by means of both express legislative requirements and the orders of commissions. Many years ago Congress passed a law requiring a certain percentage of all locomotives and cars to be equipped with power brakes and automatic couplers, and empowered the Interstate Commerce Commission to increase the percentage that must be so equipped as conditions warranted. This legislation has been successful, and all railway equipment now has the safety appliances then specified by law. Later Congress authorized the Interstate Commerce Commission to prescribe all the kinds of safety appliances which should be used upon locomotives and cars. The Commission, after conferences with officers of the railways, issued orders which have caused practically all locomotives and cars to be equipped with uniform safety appliances.

Some of the federal legislation to promote safety, as administered by the Commission, has been of more questionable value. The Commission was authorized to and did issue an order requiring all railways to use high power headlights on their locomotives. The Commission's order has been severely criticised by the officers of railways handling a heavy traffic upon multiple tracks, upon the ground that while high power headlights on railways with single tracks promote safety, their use is dangerous on railways with multiple tracks. It is generally agreed, however, that most of the regulation of railway equipment and operation by the federal government has been beneficial.

The same thing cannot be said respecting much or even most of the regulation of operation by the states. Many of the states have adopted so-called "full train crew" laws fixing the minimum number of men that must be employed on trains. It is claimed that this has resulted in forcing the railways to employ more men than are needed, has not promoted safety, and has caused economic waste.

There have been not a few examples of duplication, and even conflict, between state and federal regulation of operation. It has been contended with much force that as every large railway operates in more than one state and most of them in several states, and as the requirements for handling state and interstate traffic safely and economically are the same, practically all power of regulating operation should be concentrated in the federal government.

## THE PROPOSED TRANSPORTATION BOARD

The Association of Railway Executives and some other important business organizations favor the creation of a Federal Transportation Board, to which should be transferred all the purely administrative functions now performed by the Interstate Commerce Commission, and to which should also be delegated such additional administrative functions as may be given to any federal authority. It is contended that it is not only contrary to our constitutional form of government, which is based upon the principle of a division of legislative, administrative and judicial functions, but contrary to public expediency, to unite in one body the semi-judicial and the administrative functions now performed by the Commission. The Commission, it is said, is primarily a judicial body and is well qualified so to adjust railway rates as to prevent unfair discriminations and to cause each class of traffic to bear its fair share of the total cost of transportation. Being, however, primarily a semi-judicial body, it is unfitted, it is contended, to perform such purely administrative functions as that of regulating operation. Furthermore, it is contended, the Commission already is overloaded and would be still more overloaded if a large part of the regulatory functions now performed by the state authorities were transferred to it. It would be much better able to fix rates equitably and satisfactorily if all such administrative functions as those of regulating operation and enforcing the laws against the railways were transferred to a Federal Transportation Board. Besides, it is argued, the administrative work of regulation would be better done if it were all turned over to a purely administrative body such as a Transportation Board.

### COMPETITION AND RAILROAD SERVICE

Reference has been made to the effects the laws to prevent agreements or combinations between competing railways have had upon rate-making. These laws have had even more striking effects upon operation and service. While there have been exceptions, the railways usually have made the maximum rates fixed by the Interstate Commerce Commission the exact rates they have charged. In consequence the rates between the same points by different railways usually have been the same. When the rates charged by competing roads are the same, the only inducement a railway can offer a shipper or traveler to use its line is superiority of service. Intense competition in service has therefore been one of the main characteristics of railroad operation in this country. This competition has been very unequal because of differences in length of lines, gradients, financial strength, etc., and the "strong" roads have year by year captured an increasing part of the business. While this intense competition has tended to improve the service it has resulted in large wastes. The railways would have reduced the intensity of the competition and avoided many of these wastes, if the law had not prohibited them from entering into any agreements or combinations.

While there long had been criticism of the laws to enforce unrestricted competition, it took the crisis of the great war to bring the public to an appreciation of the more disastrous effects which they were apt to produce. Soon after the United States entered the war, the chief executives of the railways, at the suggestion of the Council of National Defense, formed an organization headed by the Railroads' War Board, to coördinate for war purposes the operation of all the railroads. At every step it took, this voluntary organization encountered obstacles created by the laws designed to compel unrestricted competition. Immediately after the government took control of the railroads, the Director

General suppressed all competitive activities upon the ground that they would interfere with the most efficient use of the railroads in the war.

Few people favor the complete abolition of competition in railroad service. It is generally agreed, however, that there has been too much competition, and that the railroads should be authorized to make any agreements or combinations which the federal authorities may hold will not be prejudicial to the public. It is regarded by most students of the railroad problem as desirable that many combinations of "weak" roads with "strong" roads shall be formed in order that in future competition in service shall be carried on only between large and strong systems. Most of the important "plans" which have been submitted to Congress authorize railroad combinations under the supervision of the government. It is even proposed in some quarters that combinations shall be made compulsory. Some of the leaders of public thought who favor voluntary combinations, and also some who favor compulsory combinations, believe they should be formed under the supervision of the proposed Federal Transportation Board. Others are in favor of giving supervision over them to the Interstate Commerce Commission.

## SETTLEMENT OF LABOR CONTROVERSIES

The third purpose above mentioned which regulation has sought to accomplish, is that of securing the peaceful settlement of controversies between railways and their employes. There are now practically no state laws dealing with railway labor controversies. The only federal law is the Newlands act. It provides for a Mediation and Conciliation Board of three government officers. When a dispute arises which may lead to an interruption of transportation, this board may tender its services as mediator to both sides. If mediation fails, the controversy may be submitted to arbitration by a board composed of two representatives of the railroads, two representatives of the employes, and two representatives of the public. The companies and employes are not required to arbitrate, but if they do, they are bound to abide by the award for a limited period.

For some years this law—previous to its revision known as the Erdman act—proved an efficient means of settling labor controversies. But it finally broke down completely. The arbitrators representing labor and the companies always became advocates of their respective interests. This rendered it necessary for the representatives of the public to decide the awards. The leaders of organized labor claimed that the awards were never fair to their followers, and in 1916, when the four brotherhoods of train service employes demanded that eight hours should be made the basis of a day's wage and that they should be paid time and a half for overtime, they refused to submit their claims to arbitration in any form. The controversy was carried to the White House. President Wilson asked the railway managers to grant the basic eight-hour day, but they refused to do so unless after arbitration. The heads of the labor organizations issued an order for a strike. President Wilson recommended to Congress the establishment of the basic eight-hour day by statute, and only the passage of the Adamson act prevented a strike.

After government operation was adopted the Railroad Administration created a "Board of Railroad Wages and Working Conditions," to which the claims of all employes for changes in wages and working conditions are referred. It is composed of three railway officers and three representatives of railway employes. It can only hold hearings and make recommendations to the Director General. As long as the country was at war this Board succeeded in agreeing upon the recommendations to be made to the Director General, and about $700,000,000 of the $1,000,000,000 increases in wages granted under government control were based upon its reports. The spokesmen of the employes used the seemingly successful work of this Board as an argument for the creation of wage boards composed of equal numbers of officers and employes as a permanent solution of the problem. Early in 1919, however, the railway shop crafts presented to the Board of Railroad Wages and Working Conditions claims for a large increase in wages in addition to those which had already been given them. All the representatives of the employes on the Board favored granting the demands, while all the railway officers opposed it. It would appear, therefore, that the theory that all railway labor disputes can be amicably and satisfactorily settled by boards of adjustment composed equally of officers and employes, also has now fallen to the ground.

Numerous new methods of settling labor controversies have been suggested. One of these is that, after the railways are returned to private operation, several boards of adjustment shall be created which shall be composed equally of representatives of the railway companies and of the employes. Every controversy shall be submitted in the first instance to one of these boards. If a majority of its members agree, its award shall be final. If not, the Federal Transportation Board which it is proposed shall be created, shall organize a board of arbitration composed of equal numbers of representatives of the officers, the employes, and the public, to which the controversy shall be appealed; no strike or lockout shall be permitted in any controversy until after it has been arbitrated. Some advocate requiring the Interstate Commerce Commission to fix all railroad wages and working conditions as well as all rates. The Commission has indicated, however, that the task of settling labor controversies would not be welcomed by it.

The old system of regulation provided no efficient means of settling labor controversies, nor did it in any way correlate the regulation of wages and the regulation of rates. One of the most difficult problems Congress will encounter in trying to frame a new system of regulation will be that of adopting satisfactory and effective means of settling labor disputes and of having the settlements promptly taken into account in the regulation of rates.

## REGULATION OF SECURITY ISSUES

No other charge ever made against them has done the railway companies of the United States so much harm as the oft-repeated allegation that they are enormously over capitalized. In view of the many and bitter attacks which have been made upon the companies upon this ground, it is a remarkable fact that the federal government has never attempted to regulate the issuance of their securities, and that until recent years few of the states did so. Apparently the first state which authorized its railroad commission to regulate the issuance of securities was Massachusetts. This was about a quarter of a century ago. Within the last twelve years about twenty states have begun regulating securities. It not infrequently happens now that a large railroad system must get the permission of a half dozen state commissions before it can issue any stocks or bonds to raise money, and such permission is given in most, if not all, of the states only after application, notice, hearing and deliberation by the commission. The railroad company may desire to use the money to be raised by the sale of the securities to improve its facilities and service in all the states it traverses, but a single state may prevent it from issuing them or delay their issuance until a favorable time for selling them is past.

The existing situation is admitted on almost all hands to be very unsatisfactory. Exclusive federal regulation is now advocated by the railway executives, the Interstate Commerce Commission, and most of the state commissions. Some eminent lawyers claim, however, that the federal government cannot assume exclusive authority to regulate the securities of corporations created by state laws, and therefore advocate the passage of a federal law requiring all railroad companies to take out federal charters. Some other lawyers contend that the federal government cannot compel a state corporation to take out a federal charter. Still other lawyers claim that the federal government can without federal incorporation assume exclusive regulation of securities issued by railroad companies doing an interstate business as properly incidental to the regulation of interstate commerce. That legislation empowering some federal tribunal to regulate the issuance of railroad securities will be passed seems highly probable, but it also appears probable that there will be important litigation before it will be determined just what form such legislation must finally be given in order to be constitutional. Those who advocate the creation of a Federal Transportation Board, favor delegating to it rather than to the Interstate Commerce Commission, the function of regulating the issuance of railroad securities.

## EFFECT OF REGULATION ON RAILROAD DEVELOPMENT

While other effects produced by the old system of regulation have been the subject of a good deal of discussion, no other has been and is now the subject of so much discussion as its effect on railroad profits. Spokesmen of the railroad labor brotherhoods recently have charged before the House Committee on Interstate Commerce, that the owners of the railroads, by selling stocks on a bonus basis, padding the property investment accounts, watering capitalization, and other means, have derived large profits from the railroads which have been made illegitimately at the expense of the public and the employes. Some members of the Interstate Commerce Commission have claimed that under the old system of regulation the railroads were allowed to earn adequate net returns, and one member has especially called attention to the fact that in the last three years of private control, 1915, 1916, and 1917, the operating income of the companies was larger than in any preceding three years.

On the other hand, the spokesmen of the railroad companies claim that under the old system the companies were not allowed to earn adequate returns and that this resulted in a sharp decline in the development of transportation facilities. They contend that the principal purpose for which our system of regulation should be radically changed is that of adapting it to the promotion of the adequate development of railroad facilities. One of the principal duties of the Federal Transportation Board whose creation they advocate would be to keep informed as to the country's transportation requirements and certify to the Interstate Commerce Commission from time to time the amount of earnings the railways of each section need to enable them to give good and adequate service. The Transportation Board's certification would be binding upon the Commission unless conclusively shown to be erroneous.

Some other organizations advocate going even farther than the Association of Railway Executives. The National Association of Owners of Railroad Securities has proposed legislation to provide that the Interstate Commerce Commission must permit the railways of each large traffic section to earn an average of at least 6 per cent upon their book cost of road and equipment. Any road which earned more than this would be required to divide the excess, keeping one-third itself, paying one-third into the federal treasury, and distributing one-third among its employes. The Transportation Conference of the Chamber of Commerce of the United States has proposed legislation requiring the Interstate Commerce Commission to fix rates which will yield an average of 6 per cent upon a fair valuation of the railroads. Any road which earned more than 6 per cent would be required to put part of the excess into a contingent fund of its own and part into a general contingent fund, these funds to be used if necessary to make up deficiencies in earnings in lean years. It also favors the creation of a Transportation Board to promote the adequate development of transportation facilities.

## HAVE RAILROAD PROFITS BEEN SUFFICIENT?

It is most important to determine whether or not under the old system of regulation the railroad companies were denied opportunity to earn adequate net returns. The railroad companies have to compete in the world's market for capital against concerns of other kinds. Insufficient net earnings will render them unable to meet this competition for capital. If they are not able to raise their share of new capital they will be unable adequately to develop their facilities, and without sufficient transportation facilities the development of the commerce of the country will gradually be brought to a stand.

Now, it is true, as has been pointed out by one member of the Interstate Commerce Commission, that the operating income of the companies in the last three years of private control was the largest in *gross amount* in history. But it was not the largest relatively, for it yielded only about 5¼ per cent upon the railways' book cost of road and equipment. Besides, it is easily demonstrable that under the old system of regulation the general tendency of railroad profits was to decline seriously. The book cost of road and equipment is the basis used in the reports of the Interstate Commerce Commission for computing the percentage of net return earned. The Commission's statistics show that following the railways' recovery from the effects of the panic of 1893, the percentage of return earned steadily increased until 1906. There was a sharp decline after the panic of 1907, followed by a recovery which continued until 1910. In the five years ended with 1900 the percentage of operating income on book cost of road and equipment was 3.82 per cent; in the five years ended with 1905, 4.97 per cent; and in the five years ended with 1910, 5.41 per cent. It was in the year 1910 that the railroads started the first important proceeding for general advances in rates. This was based chiefly upon the ground that increases of labor costs were rendering it impossible to earn reasonable profits. The advance in rates was denied. Most of the advances in rates asked for within the next five years also were denied. In this five years the average percentage of return earned was only 4.56 per cent, and in 1915 it reached the lowest point since 1899, being only 4.09 per cent. In the years 1916 and 1917 there was a sharp upturn in operating income, the percentage earned in these years being almost 6 per cent. But this was due to an unprecedented increase in traffic caused primarily by the war in Europe and secondarily by this country's entrance into the war. If there had been only a normal increase in business in 1916 and 1917 there would have been no substantial increase in operating income, and probably there would have been a further decline of it, and since the war ended the traffic has become smaller than it was in 1916.

## THE DECLINE OF INVESTMENT

Did the decline in the percentage of return earned down to 1915 affect the amount of capital invested in the railroads? The new capital invested certainly declined during this period. The new investment made in 1910 was $778,000,000 and in 1911, the year in which the Commission first refused to grant a general advance in rates, it was $808,000,000. In 1912 it was only $680,000,000; in 1913, $478,000,000; in 1914, $584,000,000; in 1915, $311,000,000; and in 1916, $268,000,000. In 1916 the investment made was less than one-third what it was five years before. The statistics demonstrate that under the old system of regulation there was a rapid decline of investment in railroads; and it is certainly not unreasonable to assume that this was mainly due to the decline in the net return earned.

The natural resources of the United States are far from being fully developed. They ought to be much more fully developed. But the transportation machine has not sufficient capacity satisfactorily to handle the present commerce of the country. Its capacity ought to be doubled, tripled, quadrupled as time goes on. It seems to follow that our system of regulation should be so changed that it will be as much its purpose to promote the adequate development of transportation facilities as to protect the public from exploitation by the railway companies. It is a remarkable fact that the former has never been one of its purposes in the past. Legislatures and commissions have been engaged for years in passing laws and issuing orders predicated on the principle that freight and passenger rates should be made as low as they can be without involving confiscation. The fact that adequate development of transportation facilities is more important to the country than extremely low rates, and that rates which are not confiscatory may nevertheless be so low as to stop the development of the railroads, has not been recognized or has been ignored by most of the regulating authorities. There can hardly be found a single word in any report or order of any regulating body indicating that it has considered it its function to stimulate the development of transportation facilities. The attitude of the regulating commissions has been the same as that of the regulatory laws. There probably cannot be found in any regulatory statute a single phrase indicating that it is any part of the purpose of regulation to promote the development of railroad transportation. Experience gives strong support to the suggestion that the law should be amended to provide that rates must be made sufficient to enable the railroads adequately to develop their facilities and that a Federal Transportation Board should be created, one of whose principal duties should be to certify to the Interstate Commerce Commission from time to time the amount of revenues that the railroads should in the public interest be allowed to earn.

## REGULATION NOT A FAILURE

If the federal regulating authorities are to be given the responsibility and duty of so fixing rates as to enable the railway companies to earn adequate returns, the laws should be so framed as to prevent state authorities from interfering with them in performing this duty. Many state legislatures and commissions have in the past fixed rates which yielded the railways even smaller profits than those fixed by the Interstate Commerce Commission. The federal regulating authorities should be given power either to fix all rates, state and interstate, or to nullify any rate fixed by a state which would not pay as much as it should of the total cost of transportation.

The fact that the old system of regulation has had some bad

# Public Service Under Government Operation of the Railroads

By MAX THELEN

Director of Public Service, United States Railroad Administration

IN writing this article on *Public Service under Government Operation of the Railroads,* I shall not express views either for or against any particular method of ownership or of operation of the railroads of the United States. My sole purpose will be to chronicle some of the salient facts which bear on the character of the service given to the public by the railroads while under government operation. These facts constitute a part of the nation's war history and are worthy of being collected and preserved.

## THE WAR AND RAILROAD SERVICE

The winning of the war was the premier consideration in the operation of the railroads by the government. Whatever changes in the existing methods of operation or in the character of the existing service to the public were necessary to this end were made without hesitation. The comfort and convenience of the travelling and shipping public were necessarily and by common consent subordinated to the nation's first and primary need. To the lasting credit of the American people, it should be said that they clearly understood the situation and uncomplainingly and patriotically coöperated in the common cause.

War conditions inevitably made operation of the railroads by the government far more difficult from the point of view of the public service than would have been the case in normal peace times. The disruption of existing railroad organizations through enlistment in the armed forces of the nation, the resulting employment of inexperienced men and women, the reduction in passenger train mileage resulting principally from the necessity for securing adequate passenger equipment for the movement of troops, the changes in theretofore existing channels of transportation made necessary by the requirements of war traffic, and other situations created by the war, all combined to make a satisfactory public service prior to the signing of the armistice and for many months thereafter far more difficult than would have been the case if the nation had been pursuing the normal paths of peace. The splendid manner in which these difficulties were surmounted by the railroad operating officials during the period of government operation will remain as a lasting tribute to their efficiency and their patriotism.

When the armistice was signed, it was only natural that complaints with reference to the character of railroad service should find expression. War time restraints were over and the pendulum inevitably swung the other way. The Railroad Administration proceeded as promptly as possible to restore pre-war service in so far as it appeared to be reasonably responsive to public needs and at the same time to retain and perfect the very great improvements in service which unified operation by the government had created. The number of complaints against the service rose to a maximum shortly after the signing of the armistice, but steadily declined thereafter until at the present time there is substantial agreement that the American people are receiving first-class freight and passenger service in so far as possible with the existing equipment.

## FREIGHT SERVICE

At the time the government undertook the operation of the railroads, the North Atlantic terminals, as well as practically all the railroad lines east of Chicago to the Atlantic seaboard, were badly congested with traffic for export and for the industries in the East. The Atlantic terminals were crowded with freight cars which it was impossible to unload. Long lines of loaded freight cars destined for the East but which it was impossible to move filled the side-tracks as far west as the plains of Kansas. The nation was confronted with the most serious railroad operating problem that it had ever faced. These difficulties were accentuated by the severest winter which this section of the country had ever known. The facts concerning the severity of this winter and the effect on transportation conditions are too well known to justify detailed recital.

It was at this time, with transportation conditions more difficult than ever before, that the federal government undertook the operation of the railroads of the United States. As the result of unified operation by the government and of the measures taken in pursuance thereof, the freight congestion was removed by May 1, 1918. Throughout the remaining period of the war, there never was any doubt as to the ability of the nation's transportation machinery to meet every war requirement.

Attention is now invited to some of the more important steps taken by the United States Railroad Administration to give an adequate and satisfactory freight service.

### *1. Solid Train Movements*

In order to meet the food requirements of our Allies, the Railroad Administration devised the plan of solid train movements of food stuffs from the West to the eastern seaboard. Cars of food stuffs destined to a given port were consolidated into solid trains and moved via the most direct open route, irrespective of shippers' routing and regardless of any particular line or lines of transportation. The plan of solid train movements was thereafter applied to the movement of fruit and other perishables from California and the North Pacific coast states, to the movement of oil from the mid-continent field to eastern destinations, to the movement of spruce, fir and other lumber from the Northwest for use in the aviation service, in shipbuilding and in other war industries, to the movement of packing house products from Missouri River points to the East and in other instances, with very greatly increased transportation efficiency. The Railroad Administration is in receipt of many letters from shippers who received this new kind of service and who state that the service thus received by them was better than any service theretofore accorded to them.

### *2. Unification of Freight Terminals and Lines*

For the purpose of securing greater efficiency in the transportation of freight into, through and around existing terminals, the Railroad Administration proceeded to the unification and coördination of such terminals wherever it seemed clear that transportation efficiency would be substantially improved thereby.

Terminal managers were appointed for the larger cities such as New York, Chicago, Philadelphia, Baltimore and Seattle, and more or less complete unification was effected in many smaller terminals. In the West alone, 136 freight stations were closed as the result of unification.

Chicago furnishes a striking example of constructive results accomplished by such unification. There existed in that city an Inner Belt Line which was the Belt Railway of Chicago; a Middle Belt Line, which was the Indiana Harbor Belt Railroad; and the Outer Belt Line which was the Elgin, Joliet and Eastern Railroad. The Railroad Administration proceeded to reduce congestion in Chicago and to expedite the movement of through freight around Chicago by using the Outer Belt Line as an interchange railroad for traffic moving to points beyond Chicago, with the exception of perishables. Perishables were routed via the Middle Belt Line which has adequate and excellent icing facilities. The Inner Belt Line was used principally for the delivery of cars within the Chicago district.

All railroad marine facilities in New York Harbor were consolidated under a marine manager and were used in common. One hundred and seventeen coal carrying barges and 18 tugs belonging to the Philadelphia & Reading, the Lehigh Valley, the New York, Ontario & Western and the Erie Railroads were pooled under a single manager, with very satisfactory results.

Illustrations of improvements in the service resulting from unification of road haul facilities are found in the routing of Baltimore & Ohio freight trains between McKeesport and Newcastle over the tracks of the Pittsburgh & Lake Erie, where one engine will handle the tonnage of five engines between the same points on the Baltimore & Ohio lines; the handling of westbound coal from the Fairmont district and coke from the lower Connellsville region on the Baltimore & Ohio over the Monongahela, Pittsburgh & Lake Erie and the Pennsylvania to the Pittsburgh district, thus releasing the Baltimore & Ohio for movement of additional eastbound business, principally coal from the Fairmont district to seaboard; and the use of single track separately owned lines between Pueblo and Denver, 118.5 miles, and between Wells and Winnemucca, 185 miles, as a double track.

### *3. Routing of Freight*

The Railroad Administration early established approved routings of freight, irrespective of the ownership of any particular transportation system, for the purpose of eliminating circuitous routing and of securing greater efficiency and economy in operation. Re-routing of freight cars was freely used for the purpose of avoiding congested lines, of moving around congested terminals and of diverting freight from congested ports to those which were open. Such re-routing resulted not merely in reduced operating expenses but also in more prompt service.

### *4. Unified control of equipment*

The Railroad Administration promptly placed practically all passenger and freight equipment in a single pool, irrespective of the corporate ownership, and drew therefrom as needed in order to meet the requirements of various sections of the country for particular equipment, either motive power or cars. This work, which was done under the supervision of the Car Service Section of the Division of Operation and the organizations in the various Regions, resulted in meeting the greatest transportation necessities of the nation with practically no increase in the amount of the existing equipment. With the exception of coal cars, all classes of equipment, were distributed without regard to ownership. In this way alone could the transportation emergency have been met.

### *5. Permit system*

In order to prevent freight from accumulating at destinations where it could not be unloaded, the Railroad Administration adopted the so-called permit system under which it was necessary for a receiver of freight, before freight could move to him, to show that ocean tonnage was available or that the freight could be unloaded promptly on arrival at destination. This system worked so successfully in helping to remove the congestion in the eastern ports that it was later extended to the movement of grain in the West. While the permit system was suspended, in so far as domestic traffic was concerned, shortly after the signing of the armistice, it remained effective as to export shipments and has recently been re-instated to assist in the movement of the enormous grain crop.

### *6. Car Loading*

An effective campaign to increase car loading was already under way before the government undertook the operation of the railroads. Subsequent to that time, however, through action taken by the Food Administration and through patriotic coöperation on the part of the shippers, even more effective car loading was accomplished than had been secured prior to the war. The records of the Railroad Administration show that between January and October, inclusive, 1918, the average load per loaded car increased 2.2 tons, or 8 per cent over the corresponding period in 1917.

## FREIGHT SERVICE AFTER THE ARMISTICE

After the signing of the armistice, the foregoing and other methods adopted by the Railroad Administration for the purpose of increasing efficiency and according better service in connection with the transportation of freight, were retained and to some extent improved upon, with the exception of the partial suspension of the permit system and of the recognition of the shipper's right to route his freight subject to the continuing supervision of the Railroad Administration in the interest of economy.

The most marked improvement in freight service subsequent to the signing of the armistice has been in the more prompt and efficient handling of less than carload freight, with the result that at the present time this service in various sections of the country is reliably stated to be better than at any other time in our history.

## FREIGHT CLAIMS

The prevention and the prompt disposition of freight claims constitute part of the service which the public expects a transportation system to accord to it. Mr. Hines, personally, has taken deep interest in both the prevention and the prompt settlement of freight claims. Under his instructions, a campaign both of prevention and of the prompt disposition of freight claims has been instituted on all the railroad systems of the country. The purpose of this campaign is not merely to effect a clean-up of the existing claims but also to take measures of prevention for the future.

Reports received from the various federal managers show that they have appointed committees of general officers; that they are holding meetings of agents, trainmasters, local train crews, checkers and clerks at freight stations; that they are selecting special representatives or field men to visit stations, check claims papers in the hands of agents and instruct employes as to the protection of freight from pilfering, and as to marking, handling and storage; that they are issuing circulars drawing attention to the principal causes of freight claims and enlisting the interest of employes in the prevention of loss and damage; and that they are taking other steps which experience has shown to be wise in handling these problems.

The sustained effort on the part of the Railroad Administration to dispose of freight claims is shown by the following tabulation:

STATEMENT BY REGIONS OF LOSS AND DAMAGE FREIGHT CLAIMS UNSETTLED

| Region | March 1, 1919 | July 1, 1919 | Total Decrease Since March 1, 1919 | Per cent of Decrease Since March 1, 1919 |
|---|---|---|---|---|
| Eastern | 287,720 | 176,220 | 111,500 | 38.7 |
| Allegheny | 143,161 | 97,686 | 45,475 | 31.7 |
| Pocahontas | 10,935 | 5,093 | 5,842 | 53.4 |
| Southern | 142,191 | 95,844 | 46,347 | 32.5 |
| North Western | 155,618 | 104,518 | 51,100 | 32.8 |
| Central Western | 100,515 | 62,366 | 38,149 | 37.9 |
| South Western | 48,057 | 33,945 | 14,112 | 29.3 |
| Total | 888,197 | 575,672 | 312,525 | 35.1 |

As will be noted, the number of unsettled freight claims decreased 312,525 or 35.1 per cent between March 1, 1919, and July 1, 1919. Each month since March 1, 1919, has shown a reduction of approximately 10 per cent in the number of unsettled freight claims.

The number of overcharge claims presented each month still runs disappointingly high. During the three months ending March 31, 1919, 358,996 overcharge claims were presented to the Railroad Administration, while during the three months ending June 30, 1919, 349,381 such claims were presented. On the other hand, the number of overcharge claims unpaid more than 90 days old fell from 54,454 on March 31, 1919, to 24,287 on June 30, 1919, clearly showing the results of the campaign to clean up the old unsettled claims.

Prior to federal control, many railroad systems were actively engaged in trying to prevent claims and in making prompt disposition of such claims as might accrue. Other railroads were making far less satisfactory efforts. The control of the United States Railroad Administration extends to all the railroads of the country operated by it, thus making its activities as to both the prevention and the disposition of freight claims more far reaching and effective than was the case prior to federal control.

## PASSENGER SERVICE

The movement of troops and their equipment required the release of passenger train equipment wherever this could be done with reasonable regard to the requirements of the civilian population.

The extent of the problem of transporting the troops is shown by the fact that between May 1, 1917, and June 30, 1919, there were 13,890,691 individual troop transportation movements. This total consisted of 7,988,707 movements in special troop trains, 3,614,058 movements in regular trains and 2,287,926 movements of drafted men from their homes to camps in special trains. For this transportation, the Railroad Administration utilized 319,277 individual car movements including Pullman cars, coaches, and baggage and express cars. The Railroad Administration ran 18,895 special troop trains.

In order to secure the necessary equipment to move these troops, as well as to conserve manpower, a careful survey was made of the passenger train mileage of the country, and duplicate and nonessential mileage was eliminated. On December 31, 1918, 67,290,562 passenger train miles had been eliminated, divided into Regions as follows:

| | |
|---|---|
| Eastern | 16,253,914 |
| Allegheny | 4,870,000 |
| Southern | 1,702,480 |
| Northwestern | 23,280,400 |
| Central Western | 16,772,524 |
| Southwestern | 4,411,244 |
| Total | 67,290,562 |

A considerable portion of the passenger mileage thus eliminated represented unnecessary duplication of passenger train service such as existed between various of the larger cities of the country as the result of excessive and wasteful competition. For instance, the service between Chicago and St. Louis was reduced 40 per cent, but the over-night trains which were continued in operation were sufficient to furnish nearly all passengers with lower berths.

Subsequent to the signing of the armistice, such of the former passenger train mileage as seemed desirable, in view of the altered situation, was gradually restored. By June 30, 1919, 11,461,758 passenger train miles had been thus re-instated.

The magnitude of the passenger problem with which the Railroad Administration was confronted is shown by the fact that on 230,000 miles of Class I railroads under federal control the number of passengers carried during the first 6 months of the years 1917, 1918 and 1919 increased as follows:

| | |
|---|---|
| 1917 | 464,978,544 |
| 1918 | 516,505,600 |
| 1919 | 540,498,510 |

It will be observed that the number of passengers carried during the first 6 months of 1919 was approximately 16 per cent greater than during the corresponding period in 1917. Nevertheless, the amount of passenger equipment was substantially the same as in 1917.

In addition to the elimination of passenger train mileage hereinbefore referred to, attention is invited to some of the other significant steps taken by the government in connection with passenger service.

### *1. Consolidated Ticket Offices*

Prior to the war, the various railroad corporations quite generally maintained separate city or up-town ticket offices, particularly in the larger cities. The Railroad Administration consolidated these various ticket offices and is now operating 111 consolidated ticket offices in cities where prior to the war 564 separate offices were maintained. These offices have proved of very great convenience to the public and there is a wide-spread demand on the part of the public that these offices be retained.

### *2. Unification of passenger terminals*

Considerable convenience to the public as well as economy in operation has resulted from the unification of passenger terminal facilities in various sections of the country.

Perhaps the best known of these unifications is the use of the Pennsylvania Railroad Station in New York City by the through passenger trains of the Baltimore & Ohio and the Lehigh Valley, with very great resulting convenience to the public. Another illustration of such unification is the joint use of the Southern Pacific Company's Oakland Pier on the eastern shore of San Francisco Bay by the Atchinson, Topeka & Santa Fe Railroad Company and the Western Pacific Railway Company. This consolidation enabled the Railroad Administration to dispense with the ferry service of both the Santa Fe and the Western Pacific across San Francisco Bay and also has resulted in the saving of considerable time to passengers going to and from San Francisco over the line of the Santa Fe.

While attention has been drawn to only a few illustrations, the extent of the passenger terminal unification is shown by the fact that in the West alone 90 passenger stations were closed, without impairment of the service to the public.

### *3. Staggering of Passenger Trains*

Under the competitive conditions which prevailed prior to federal control, it was customary to have passenger trains of rival railroads leave a city at about the same time frequently at least half empty and to arrive at the other terminus also at about the same time. The Railroad Administration eliminated a considerable amount of this unnecessary passenger service and staggered the remaining service so that with less passenger equipment the times of arrival and departure were more frequent than theretofore. A passenger travelling between Washington and New York can now leave either terminus at almost any hour over either the Pennsylvania or the Baltimore & Ohio with a ticket good over either line.

### *4. Dining Car Service*

For the purpose of conserving food and of securing greater efficiency from the use of the existing dining cars, *table d'hôte* dining car service was made effective on October 1, 1918. *Table d'hôte* luncheons and dinners were served at the uniform price of $1.00, except upon a few limited trains where $1.25 was charged for dinners.

After the signing of the armistice, it became apparent that this service did not meet the requirements of the American travelling public. Accordingly, on March 1, 1919, *à la carte* service was restored except on a few of the more heavily loaded trains where *table d'hôte* meals are served as a means of expediting service. The *table d'hôte* meal served a useful purpose while it was in effect. At the present time, there is very little complaint concerning the dining car service which is being given by the United States Railroad Administration and it is generally considered that this service is at least as good as it was prior to the period of federal control.

### 5. *Maintenance of Schedules*

During the war, it became necessary to lengthen passenger train schedules in quite a number of instances. After the signing of the armistice, these schedules have again been shortened wherever it seemed appropriate to do so and very particular attention has been paid to having trains run on schedule time. The records of the Railroad Administration show that the number of trains which run on schedule is at least as great as before federal control, while in certain sections of the country, particularly the South, the record is very much better.

## ADJUSTMENT OF RATES

Proper service by the railroads to the public presupposes the existence of a procedure through which such alterations in rates as become necessary, from time to time, can be made in a prompt and satisfactory manner. The necessity for such a procedure became particularly apparent by reason of the changes in existing rate relationships effected by General Order No. 28, making general increases in freight and passenger rates.

For the purpose of meeting this situation, the Railroad Administration established a series of Freight Traffic Committees, conveniently located in various sections of the country, to which the shippers as well as the traffic officers of the carriers might appeal for adjustment of freight rates.

District, or local, committees were established with headquarters at Atlanta, Birmingham, Boston, Buffalo, Chicago, Cincinnati, Dallas, Denver, Detroit, Jacksonville, Kansas City, Louisville, New Orleans, New York, Omaha, Philadelphia, Pittsburgh, Portland, Richmond, Salt Lake City, San Francisco, St. Louis and St. Paul. General committees, having jurisdiction, respectively, over Official (or Eastern), Western and Southern territory, were established in New York, Chicago and Atlanta. Committees intermediate between certain District Committees in Eastern territory and the Eastern General Committee were established in New York and Chicago. Special committees for the consideration of freight rates on coal and coke alone were established at Philadelphia and Pittsburgh.

A shipper or a traffic official of a carrier who desires an adjustment of an existing freight rate files a petition with the proper freight traffic committee. The matter is docketed for hearing, all interested parties including the state railroad commission are notified, a public hearing is held and thereafter the committee submits its recommendations. If the matter is one of local interest alone, the recommendation, under the revised procedure, is submitted directly to the Directors of Traffic and Public Service in Washington. If the matter affects one or more districts, the recommendation is first transmitted to the appropriate General Committee and by the latter to Washington.

Between June 15, 1918, and July 26, 1919, 11,376 freight rate authorities, authorizing modifications in rates, were issued by the Central Railroad Administration in Washington as the result of proceedings in the various freight traffic committees and action by the Directors of Traffic and Public Service in Washington. This number is equivalent to an average of 200 per week.

Whenever a proceeding substantially affects state rates, the matter is submitted to the appropriate state railroad commission for its advice and suggestions, before final action is taken in Washington. If the matter involves interstate rates and is of substantial importance and the parties have been unable to agree, the matter is submitted to the Interstate Commerce Commission for its advice and suggestions in accordance with the provisions of Section 8 of the Federal Control Act.

In order to make sure that the point of view of the shippers should receive due consideration, it was provided, initially, that there should be on each freight traffic committee one or more members representing the shippers, the number being always one less than the number of representatives of the carriers. However, in the early part of 1919, a change was made so that thereafter each committee has consisted of an equal number of representatives of the shippers and of the carriers. With the same purpose in mind, it has also been provided that no freight rate authority shall be issued by the Railroad Administration, unless the matter has first been brought to the attention of the Division of Public Service in Washington and unless that Division agrees to the issue of the freight rate authority; provided that if the Division of Traffic and the Division of Public Service cannot agree, the matter may be submitted to the Director General personally for his decision.

The machinery which has thus been provided for the adjustment of rates works promptly and with apparent satisfaction to all parties interested. For the first time in the history of railroad rate making in the United States, representatives of the shippers have, from the moment of the initiation of the rate, an equal voice with the representatives of the carriers.

While referring to rates, it may be appropriate to draw attention to the fact that the increases in freight and passenger rates during the period of government operation have averaged only approximately 25 per cent while during the same period the cost of almost everything which our people eat and wear has risen from 50 to 100 per cent and even higher. Considering the purchasing power of the dollar, railroad rates and fares have been lower during the period of government operation than ever before.

## SAFETY

Satisfactory railroad service presupposes that adequate means are taken to promote the safety of the public and of the employes.

The Safety Section of the Division of Operation has provided for the appointment of Safety Committees on all the railroad systems in the United States. These committees consist of representatives of both the officers and the employes and meet regularly for the purpose of promoting safety work. The Safety Section has inaugurated a "No Accident Week" campaign in the various Regions and reports very satisfactory results therefrom. The "No Accident Week" campaign which was conducted during the week from June 22 to June 29, 1919, in the Northwestern Region showed a reduction in the number of accidents from 481, of which 6 were fatal, in the corresponding week in 1918 to only 119, of which 5 were fatal, being a decrease of 75.26 per cent in the total number of accidents. A similar campaign conducted in the Central Western Region during the same week showed a reduction from 9 fatalities and 447 other injuries in the corresponding week in 1918 to 4 fatalities and 94 other injuries, being a total decrease of 79 per cent.

Due to the very severe transportation conditions in the months of January and February, 1918, a reduction in the number of killed and injured during the same months in 1919 might reasonably have been expected. However, the same satisfactory showing continued during the months of March and April, 1919, as appears from the following table showing the reductions in the total number of killed and injured, both employes and all cases, during the first 4 months of 1919 as compared with the same 4 months in 1918:

REDUCTIONS IN ACCIDENTS

| | *Employes* | | *All Cases* | |
|---|---|---|---|---|
| | Injured | Killed | Injured | Killed |
| January | 2,598 | 135 | 3,058 | 175 |
| February | 2,959 | 163 | 3,264 | 222 |
| March | 3,687 | 94 | 3,732 | 196 |
| April | 2,649 | 98 | 3,111 | 174 |
| | 11,893 | 490 | 13,165 | 764 |

The very satisfactory results which have followed the work of the Safety Section and its various committees have undoubtedly been due in large part to the uniform control over this work on all railroad systems of the country exercised during the period of government operation.

## DIVISION OF PUBLIC SERVICE

The Division of Public Service is one of the 10 divisions of the Central Railroad Administration in Washington.

This Division was created primarily for the purpose of providing that in whatever action is taken by the Central Railroad Administration in Washington affecting the interests of the travelling or the shipping public, the public point of view shall receive full consideration. The Division is also charged with the responsibility of investigating and seeking to adjust such complaints concerning railroad rates or service as are transmitted to the Railroad Administration in Washington. The Division has jurisdiction over the relations between the Railroad Administration and the various state railroad commissions. Also, the Division has a Short Line Railroad Section to which short line railroads may apply for assistance in case they believe that they are not being fairly treated by the Railroad Administration.

The Division of Public Service and Accounting was created on February 9, 1918, with Honorable Charles A. Prouty as Director. The Division of Public Service was linked together with the Division of Accounting until February 1, 1919, at which time the writer of this article entered the Railroad Administration as Director of a separate and independent Division of Public Service.

The following tabulation shows the number of initial letters received by the Division of Public Service, relating to rates and service, from February, 1918, to July, 1919, inclusive.

| | |
|---|---|
| February, 1918 | 16 |
| March | 63 |
| April | 79 |
| May | 147 |
| June | 1,800 |
| July | 1,029 |
| August | 746 |
| September | 875 |
| October | 851 |
| November | 1,117 |
| December | 1,184 |
| January, 1919 | 1,500 |
| February | 1,530 |
| March | 2,323 |
| April | 3,473 |
| May | 3,297 |
| June | 3,126 |
| July | 2,692 |
| Total | 25,848 |

Of the foregoing letters, approximately 70 per cent refer to rate matters and 30 per cent to service matters.

The increase in the number of letters received subsequent to February 1, 1919, shows that the public was quick to avail itself of an independent agency in the Railroad Administration, charged with particular responsibility for seeing to it that due consideration is given to the point of view of the public. On the other hand, the decrease in the number of letters received, from 3,473 in April to 2,692 in July, reflects the undoubted improvement in railroad operation and the increasing satisfaction of the public with the character of the service, both freight and passenger, which the public is now receiving.

The limits of this article do not permit a detailed reference to the nature of the complaints received by the Division of Public Service, but it will suffice to say that they run the entire gamut of railroad rates and service. The Division of Public Service tries earnestly to give prompt, courteous and efficient attention to all letters received and has disposed, to the satisfaction of the parties interested, of nearly all the complaints which have come to it.

The number of complaints hereinbefore referred to does not include the communications which have come to the Bureau for Suggestions and Complaints. This bureau was established in September, 1918, for the purpose of receiving complaints and suggestions from the public with reference to the quality of railroad service in response to bulletins posted in passenger coaches, railroad stations and other convenient places. The work of the Bureau has been limited to letters received in response to the invitations contained in such bulletins. The number of original letters received by the Bureau has fallen from 3,702 in September, 1918, to 1,144 in July, 1919, and the number of secondary or follow-up letters relating to the same subjects from 3,792 in November, 1918, to 1,740 in July, 1919. Each complaint is followed up and such unsatisfactory conditions as are revealed by the correspondence are corrected. On February 1, 1919, the Bureau for Suggestions and Complaints was made part of the Division of Public Service.

The Division of Public Service was established and is operating in frank recognition of the fact that the first duty of transportation systems and, in fact, their only real excuse for existence, is to give to the public satisfactory service at reasonable rates.

The operation of our railroads by the government has undoubtedly created a more wide-spread public interest than formerly existed in the operation and welfare of our transportation system. More than ever before, our people realize the important part which transportation plays in the life of the nation and of each individual citizen. The greater public interest which has been aroused will certainly result in improved relations between the railroads and the public and in a more satisfactory service by these agents of the public.

## PERMANENT CONTRIBUTIONS OF GOVERNMENT OPERATION OF RAILROADS TO PUBLIC SERVICE

In the opinion of the writer, it would be most unfortunate if the constructive work which has been done by the government in relation to both freight and passenger service should be permitted to be lost when the properties of the carriers are returned to their private owners for operation. It would seem far wiser for the American people to take a leaf from the book of their war-time experience and to insist that the improvements in service which have been effected by the Railroad Administration should be retained by the private railroad corporations in so far as is compatible with operation by a large number of separately operated railroad corporations.

The writer is of the opinion that it would be in the interest of the American people if the following constructive results, among others which have been accomplished by the federal government, during the period of federal control, and which bear on the character of the public service, were retained by the private railroad corporations when they again operate their properties:

1. *Pooling of Equipment.*—The continuation of the pooling of motive power and equipment under the supervision of some central authority, to be exercised at least whenever there is a shortage of equipment. Such pooling is particularly desirable as to box, refrigerator, stock and flat cars.

2. *Unification of Terminals.*—The retention of the constructive results which have been accomplished by the federal government, and the extension of the principle so that a railroad corporation having terminal facilities shall be obliged, on just and reasonable compensation, to permit the use of such facilities by another railroad corporation when the public interest requires such use.

3. *Consolidated Ticket Offices.*—The retention of the consolidated passenger ticket offices established by the Railroad Administration and the establishment of additional offices as needed.

4. *Disregard of Routing Instructions.*—A disregard of routing instructions whenever necessary to relieve congestion either of terminals or of railroad lines. A continuance of solid train movements wherever reasonably possible.

5. *Permit System.*—The use of this system whenever necessary in order to avoid congestion.

6. *Elimination of Waste in Unnecessary Competitive Train Service.*—Particularly, the refusal to install again the competitive and highly wasteful passenger service which existed prior to federal control between many of the larger cities of the country.

7. *Representation of shippers in initial making of rates.*—The establishment of some procedure by which shippers shall continue to have a voice in the initiation of rates.

8. *Speed in Adjustment of Rates.*—Adequate provision for the adjustment of rates with a speed approximating that with which the various Freight Traffic Committees of the United States Railroad Administration and the Divisions of Traffic and Public Service are now doing their work.

9. *Freight Claims.*—Continuation by some central authority having jurisdiction over all railroad systems of the effective campaign for the prevention and the prompt disposition of freight claims which has been initiated and is now being prosecuted by the Railroad Administration.

10. *Safety Work.*—Continuation by some central authority having jurisdiction over all railroad systems of the campaign for safety which has been initiated and is now being carried forward by the Railroad Administration.

11. *Public Service Work.*—The establishment by each railroad corporation of some Division or Agency charged with the duty of giving consideration to the point of view of the public in rate and service matters and of seeing to it that complaints from the public receive prompt, courteous and considerate attention.

# The Accomplishments of the United States Railroad Administration in Unifying and Standardizing the Statistics of Operation

By WILLIAM J. CUNNINGHAM

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THE standardization of statistics of operation, which has been brought about by the centralized control of the United States Railroad Administration, was intended primarily to aid the Director General and his staff, the Regional Directors, and the Federal Managers of the individual railroads, in keeping closer check on the efficiency of operation, as measured by units of transportation, equipment utilization and operating costs. Railroad officers, as a whole, now know more than they knew before about the details of the operation of their own properties, and they now know very much more than they knew before about their relative performance in comparison with neighboring roads. The publication of the monthly summaries by roads and by regions makes possible easy comparison of the results on one road with those of other roads operating under similar conditions, and enables each Regional Director to measure the efficiency of his region with that of neighboring regions without uncertainty or qualification as to bases and methods.

The value of the information made available by the new plan is not confined to railroad managers. The published summaries have opened up to the public regulating authorities, economists, investors and other students of transportation, a wealth of data which heretofore have not been available in comprehensive form or on uniform bases. This phase of the subject is of interest to the readers of The Annals, and it will be largely from this viewpoint that the following description of the plan, and the discussion of its underlying principles, will be undertaken.

## STATISTICAL REQUIREMENTS OF THE INTERSTATE COMMERCE COMMISSION

At this point it is important to draw attention to the fact that the Interstate Commerce Commission in its classifications of revenues and expenses has made very little provision for statistics of operation. The emphasis throughout all of the classifications, and in the data required in the annual report, has been placed upon the features of finance and public service. By combinations of the statistics of transportation production, (ton-miles and passenger-miles) with statistics of train-, locomotive-, and car-mileage, it is possible to derive a few statistical units, such as the average net freight train-load, the passengers per train-mile, the tons per loaded freight car-mile, and the passengers per passenger car-mile. It is possible also to derive a few unit costs for the transportation service *as a whole*, but, generally speaking, the annual report form of the Commission does not provide sufficient data for the purposes of the analyst of operating efficiency.

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This comment is not intended as a criticism. The standardization of railroad accounting is one of the noteworthy achievements of the Interstate Commerce Commission. It meets the requirements of the original Act to Regulate Commerce, and of its amendments. Section 20 of that Act, as amended, instructs the Commission to provide for "a uniform system of accounts and the manner in which such accounts shall be kept" and especially refers to

> capital stock issued, the amounts paid therefor, and the manner of payment for the same; the dividends paid, the surplus fund, if any, and the number of stockholders; the funded and floating debts and the interest paid thereon; the cost and value of the carrier's property, franchises, and equipments; the number of employees and the salaries paid each class; the accidents to passengers, employees, and other persons, and the causes thereof; the amounts expended for improvements each year, how expended, and the character of such improvements; the earnings and receipts from each branch of business; the balances of profit and loss; and a complete exhibit of the financial operations of the carrier each year, including an annual balance sheet. Such reports shall also contain such information in relation to rates or regulations concerning fares or freights, or agreements, arrangements, or contracts affecting the same as the Commission may require . . .

The absence of any reference to statistics which reflect the degree of operating efficiency is apparent. The viewpoint is that of protection of those who pay the freight, those who travel, and those who invest their money in railroad securities. The uniform system of accounts, therefore, does not include within its scope any standards of cost accounting nor any indices (in detail) of managerial efficiency, except those which are reflected by the totals of the income account, the balance sheet, and the profit and loss account.

In the absence of required standards, the railroads continued and developed their own statistical systems individually, and there grew to be wide divergencies in practice, ranging from an almost entire absence of statistics other than those required by the Commission, to elaborate cost accounting and efficiency data. There was no uniformity, either as to the general scope of operating statistics or as to the methods or bases. Each railroad evolved its own statistical standards according to its own conception of what was necessary or desirable, and in each case the system, to a large extent, was a reflex of the interest taken personally in the figures by those in managerial authority. It was, therefore, extremely difficult for one road to compare its operating statistics with those of its neighbors, as there was seldom any assurance that the units bearing the same title really meant the same thing. For example, in the important feature of freight car utilization, Road A would compute its "Average miles per car-day" by including every freight car on its lines; Road B would exclude cars stored; Road C would exclude cars held under repairs or awaiting repairs as well as those stored. Some roads took count of the cars on the line once every month and used that as the divisor. Others took the average of two or four counts per month. Others took the daily average. In practically every unit of performance there were variations in practice which prevented comparisons without qualifications of some kind.

Under pre-war conditions, when each road or system was operated as an independent unit, this lack of standardization was not highly important. When, however, the roads were taken over by the government, and operation was begun as a single system under centralized management, this lack of statistical standardization was extremely embarrassing. For the purposes of intelligent control, centrally and by regions, a standardized plan was vital.

## STANDARDIZATION BY UNITED STATES RAILROAD ADMINISTRATION

The Operating Statistics Section of the United States Railroad Administration was created on May 6, 1918, as a part of the Division of Operation, and instructed to "arrange for, and supervise, the making of standardized reports and statistics pertaining to the maintenance and operation of railroads under Federal control, and to make such compilations of statistics as may be required."

The first work of the section was to design the standard forms. The aim was to continue the best in current practice, and at the same time to avoid placing too great a burden on the roads which had not been progressive in that respect. An effort was made to utilize all of the basic data required by the annual report forms of the Interstate Commerce Commission, and to superimpose upon that structure the additional information considered essential to a scientific exhibit of the more important phases of physical performance. The plan, as promulgated in August, 1918, did not completely embrace its intended scope, (as it was the intention to go into the details of maintenance of way and equipment, and into certain further details of transportation expenses) but the initial requirements are scientifically comprehensive without being carried so far toward the ideal as to be impracticable or unjustifiably burdensome.

## LIST OF REGULAR MONTHLY REPORTS

*Form 1, Freight Train Performance.* This form calls for train-miles, locomotive-miles, car-miles, gross ton-miles, rating ton-miles, net ton-miles, train-hours, and the following averages and ratios (separately by directions):

Ratio of locomotive-miles to train-miles
Car-miles per train-mile (loaded, empty and total)
Gross ton-miles per train-mile
Rating (potential) ton-miles per train-mile
Net ton-miles per train-mile
Average speed in train-miles per train-hour
Gross ton-miles per train-hour
Net ton-miles per train-hour
Net ton-miles per loaded car-mile
Per cent loaded car-miles to total car-miles
Per cent net ton-miles to gross ton-miles
Per cent actual gross ton-miles to potential gross ton-miles

*Form 2, Passenger, Mixed and Special Train Performance.* This form calls for less detail than the report on freight train performance, as the passenger service does not lend itself so readily to statistical control. Freight trains, with certain exceptions, are not run unless there are sufficient cars awaiting movement to make up full train-loads. The passenger service, on the other hand, is practically fixed by the public time-table, and the trains are run regardless of the fluctuations in the number of passengers. The superintendent has little control over the minimum passenger train service, although he can regulate the use of extra cars or extra trains. Form 2 provides for train-mileage, locomotive-mileage, and car-mileage, separated by classes of cars. The statistics are reported separately for passenger trains, mixed trains and special trains. The averages and ratios for passenger trains are:

Ratio of locomotive-miles to train-miles
Car-miles per train-mile
    Passenger cars
    Sleeping, parlor, and observation cars
    Dining cars
    Other passenger train cars
    Total

*Form 3, Locomotive Performance.* This report calls for statistics of performance and of fuel consumption of freight, passenger and yard switching locomotives. From the basic information are derived the following averages or ratios:

### FREIGHT SERVICE

Gross ton-miles per locomotive-mile
Net ton-miles per locomotive-mile
Locomotive-miles per locomotive-day, serviceable locomotives
Locomotive-miles per locomotive-day, all locomotives
Net ton-miles per locomotive-day, all locomotives
Per cent of unserviceable locomotives
Pounds of coal per locomotive-mile
Pounds of coal per 1000 gross ton-miles

### PASSENGER SERVICE

Car-miles per locomotive-mile
Locomotive-miles per locomotive-day, serviceable locomotives
Locomotive-miles per locomotive-day, all locomotives
Per cent of unserviceable locomotives
Pounds of coal per locomotive-mile
Pounds of coal per car-mile

YARD SWITCHING SERVICE

Locomotive-miles per locomotive-day, serviceable locomotives
Locomotive-miles per locomotive-day, all locomotives
Per cent of unserviceable locomotives
Pounds of coal per locomotive-mile

*Form 4, Distribution of Locomotive Hours.* This is an entirely new report which calls for the total number of locomotive-hours and their distribution by classes, (freight, passenger, yard switching and others) and a complete record of the hours spent on the road between terminals, the hours spent at terminals before beginning and after completing the road run, the hours spent in the enginehouse, and the hours spent in the shop or awaiting repairs. The aim is first to separate the serviceable from the unserviceable locomotives, and then, for each class of service, to show the division of serviceable locomotive time between hours devoted to the production of train-miles and hours of unproductive time.

*Form 5, Freight Traffic Movement and Car Performance.* This form provides an exhibit of the total volume of freight traffic and of freight car efficiency, and shows the average number of cars on the road daily (separated between serviceable and unserviceable), the net ton-miles, the train-miles, and the car-miles. It includes the statistics of mixed trains as well as those of freight trains. (Form 1 is confined exclusively to freight trains.) The averages follow:

Net ton-miles per mile of road per day
Net ton-miles per train-mile
Per cent of cars on line to cars owned
Per cent of cars in or awaiting shop to total on line
Net tons per loaded car-mile
Per cent of loaded car-miles to total car-miles
Car-miles per car-day
Net ton-miles per car-day

Forms 1 to 5, inclusive, relate entirely to what is termed physical performance. The dollar mark does not appear on any of the five forms. Consequently they are independent of the expenditure accounts. The distinction is important from the viewpoint of early availability. The accounts relating to expenditures ordinarily are not closed until the 20th to the 24th of the month following that to which the figures apply, and the complete income account ordinarily is not available until the 25th. The physical performance statistics, however, are based in greater part on the conductors' train reports. Those which do not come from the train reports are taken from other records of the operating department which are available a few days after the close of the month. Consequently it is possible to complete the reports of physical performance fifteen days after the close of the month, and the statistics are available at least ten days before those which relate to cost. It is highly important that the figures shall be in the hands of the supervising officers at the earliest possible date.

The underlying theory of the five forms is that the operating department is charged with a given number of locomotive-days and car-days, and is credited with its production in ton-miles or passenger car-miles. The production in ton-miles and passenger car-miles, in turn, is related to the operating department's expenditure in train-miles, locomotive-miles, and car-miles, and the supplementary statistics throw light on the components of the train-load and the car-load, as well as upon the effect of changes in the nature of the commodities handled, in the balance of traffic, in the proportion of fast and way-freights, and in other physical, traffic and operating features. The desiderata are that each locomotive and car should be employed to its capacity, and should produce the maximum of ton-miles with the minimum of train-, locomotive- and car-miles. The statistics show clearly the relation between the ton-mile production and the utilization of equipment, and the relation between the actual and potential train production. The physical performance statistics are compared at a later date with the cost statistics provided by Forms 6 and 7. These two forms are due to be completed on the 30th day of the month following that to which the figures apply.

*Form 6, Locomotive and Train Costs.* This report deals with the direct or "out-of-pocket" costs—those which are directly related to train-, locomotive- and car-performance. They require a separation of these primary expense accounts according to the Interstate Commerce Commission's "Rules governing the Separation of Operating Expenses between Freight Service and Passenger Service."

The basic data are reported separately for freight service and passenger service and separately for:

Locomotive repairs
Enginehouse expenses
Enginemen
Trainmen
Locomotive fuel
Other locomotive supplies
Train supplies and expenses

For the freight service the unit costs are expressed in:

Cost per locomotive-mile
Cost per train-mile
Cost per 1000 gross ton-miles

For the passenger service, they are shown as:

Cost per locomotive-mile
Cost per train-mile
Cost per passenger train car-mile

*Form 7, Condensed Income Account and Operating Expenses by Primary Accounts.* This form is a copy of the condensed income account and the primary expense accounts of the Interstate Commerce Commission, with certain re-arrangement and grouping to provide sub-totals of the primary expense accounts which adapt themselves to operating statistical requirements. A summary is provided to show the operating ratio divided between the seven general accounts of the Interstate Commerce Commission classification.

*Form 8, Freight and Passenger Revenue Statistics.* This report (which is due on the 10th day of the second month following that to which the figures apply) requires in monthly form most of the revenue statistics called for annually by the Interstate Commerce Commission. From the basic information the following units are derived and are used as supplementary data in the analysis of operating results:

Miles per ton, revenue freight (average haul)
Revenue per ton, revenue freight
Revenue per ton-mile, revenue freight
Revenue per freight train-mile
Revenue per loaded freight car-mile
Miles per passenger (average journey)
Passengers per train-mile
Passengers per passenger-carrying car-mile
Passenger revenue per passenger

Passenger revenue per passenger-mile
Total revenue per passenger train-mile
Passenger revenue per passenger-carrying car-mile.

## SOME DISTINCTIVE FEATURES OF THE NEW PLAN

The foregoing will give a general idea of the scope of the plan. Attention will now be directed to some of its distinctive features. The principal innovations appear in the statistics of freight train operation, as that field contains the largest possibilities of statistical control and had the greatest need of harmonizing divergencies in statistical practice.

### *Gross Ton-Miles*

At the outset it was decided that gross ton-miles are absolutely essential. They represent the product of the gross weight (tons of 2000 lbs.) of the train behind the tender, and the miles moved. Gross ton-miles are the superintendent's transportation product, against which his costs may be measured. All of the gross load is not paying freight. The paying freight is represented by the net ton-miles. Any complete statistical plan requires both sets of figures.

The compilation of gross ton-miles had been common west of the Mississippi River for many years, and to a smaller extent this was true also of certain important roads in the south. Such statistics, however, were not common in the east, although the tendency was toward recognizing their value.

### *Rating Ton-Miles*

The compilation of rating ton-miles was confined to a very few railroads. Rating ton-miles are the potential ton-miles which would have been produced had all trains been loaded to 100 per cent of the slow freight rating for normal summer weather, taking account of changes in the locomotive ratings over sections of the train run. It is customary to determine, and to publish as the tonnage rating of each class of each locomotive, what each class of locomotive is capable of hauling over each run or each section of a run when there are differences in the gradients to be overcome. It was decided that this information is vital to a scientific analysis of train loading efficiency, as the ratio of the actual gross ton-miles to the potential gross ton-miles gives the percentage of train loading efficiency. The general manager of a railroad may fairly hold his superintendents responsible for a satisfactory ratio of actual to potential, the performance in every case to be interpreted in the light of other related statistics, such as the train speed and the ratio of net ton-miles to gross ton-miles. In the very nature of things the superintendent can seldom make a perfect performance of 100 per cent. His traffic will not be evenly balanced by directions, he must run some fast-freights and way-freights with less than the full tonnage required by the slow freight tonnage rating, and the weather conditions are not always ideal.

### *Net Ton-Miles from the Train Reports*

The net ton-miles are the product of the tons of freight in the train and the miles they are moved. The net ton-miles represent the paying part of the gross load. From the viewpoint of management the net load is more important than the gross load, as the revenues follow the net tons although the expenses follow the gross tons. It is important, then, to know the ratio of net ton-miles to gross ton-miles. That ratio is influenced by the car-load, which, in turn, is influenced by the fluctuations in the relative proportions of low-grade freight and high-grade freight. The former moves in bulk in full car-loads; the latter moves in relatively light car-loads. The ratio of net ton-miles to gross ton-miles is influenced also by the fluctuations in the empty car movement.

The net ton-miles reported on Forms 1 and 5 are computed from the conductors' train reports which among other things show the car numbers and initials, the weight of contents, the gross weight, and the points between which moved. Except in a very few isolated cases (where the value of the statistics had been recognized) net ton-miles were not available until the latter part of the second month, that is to say, the net ton-miles for January would not be complete until March 15th to March 25th. The information was taken from the waybills, the source of freight revenue statistics, and the delay in the settlement of interline waybills prevented an earlier closing of the revenue accounts. As a consequence the net ton-miles were received so late that they did not provide a satisfactory basis for the computation of train loading and car loading statistics.

Another objection applied to waybill ton-miles as a measure of train- and car-performance. Ton-miles computed from the waybills rarely corresponded with the tons actually moved during the period for which the train-miles were reported, because of the delay in taking the interline waybills into account. There was always a "lap-over" of interline waybill ton-miles omitted from the preceding period, and a shortage of interline waybill ton-miles produced in the current period but not taken into account until the next period. In theory the "lap-over" should have balanced the shortage, but in actual practice the discrepancy was often so great as to invalidate waybill tonnage as a measure of train performance for any particular month.

It was decided, therefore, to require that the net ton-miles, like the gross ton-miles, the train-miles, the locomotive-miles, the car-miles and the train-hours, should be computed from the train reports. All of the basic data, then, would come from the same source. This insures the comparability of all these related data, and definitely allocates the transportation product to the particular period under review. Steps were taken later to utilize the train report ton-miles for revenue accounting and statistical purposes, and to discontinue the computation of waybill ton-miles except in certain states which require a separation of ton-miles between interstate and intrastate.

It may occur to the minds of those who are interested in ton-mile statistics purely from the viewpoint of revenue and public service that the substitution of the statistics from the train reports may be less accurate than those from the waybills, and that the use of train report ton-miles as a divisor into freight revenue may affect the integrity of the important unit "Revenue per ton-mile." There is, however, no cause for apprehension on that score, as experience has shown that differences in the two sets of statistics are so small as to be negligible. A comparison of the net ton-miles from the waybills (before that basis was discontinued) with those taken from the train reports, shows that for all railroads for five months the variation was but 0.8 per cent. In this test the effect of the "lap-over" items is nullified because they are spread over a period of five months. The variation would be greater in the comparison of a single month.

## THE TIME ELEMENT IN OPERATING STATISTICS

The importance of the time element in operating statistics had not generally been recognized. The majority of railroad men and financiers, are accustomed to think in terms of train load- ton-miles per train-mile. Relatively few have been accustomed to think in terms of ton-miles per train-hour. The latter, however, is the better index to efficiency. The train-load, by itself, takes no account of speed. Ton-miles per train-hour are the resultant of load and speed. It is analogous to the horse-power unit. It combines in itself the net effect of the operating policy between the two extremes of loading the locomotive to every ton it can drag at low speed over the ruling grade, and of sacrificing tonnage in order to make the trip quickly. There is always a critical point between the two extremes which under normal conditions will produce the maximum of ton-miles per train-hour at the minimum cost per ton-mile.

To illustrate: assume that on a given run there are sections of 1 per cent grade over which a given type of locomotive can haul 1,500 gross tons (tons of car and lading combined) at a speed of six miles per hour on these maximum grades. The speed on other sections, of course, will be greater, but we will assume that, with a normal allowance for road delays, the run of 100 miles may be made in 10 hours. At that speed the production would be 15,000 gross ton-miles per train-hour (train-load of 1,500 gross tons times train-speed of 10 miles per hour). As the train- and engine-crews are on an eight-hour day basis, they would be paid overtime for two hours. (It is unnecessary here to go into the technicalities of the wage schedules which provide that mileage rates apply unless the miles per hour in freight service are less than 12.5, in which case hourly rates, based on 12.5 miles per hour, apply.) In this case it may be found that a reduction in the tonnage rating to 1,350 tons would permit an increase in the speed and reduce the trip hours to 8, or an average speed of 12.5 miles per hour. This combination of train-load and train-speed will produce 16,875 gross ton-miles per train-hour. The ton-mile production *per train-hour* is thereby increased from 15,000 to 16,875, and the cost per ton-mile is decreased because of the elimination of overtime. In this assumed case it is plain that the 1,500 ton rating is uneconomical. In the great majority of cases it may not be clear whether there would be any real economy in decreasing the load to increase the speed. These principles are ordinarily considered when the tonnage ratings are established, and it is the intention that they shall be set at a maximum which will not prevent the trains from moving at economical speed.

In order to provide for the time element in operating statistics, the compilation of freight train-hours was required. Form 1 show these basic data as well as gross ton-miles and net ton-miles per train-hour. It is possible, therefore, to trace the relationship between increases or decreases in the train-load and increases or decreases in the train-speed, and to note the combined effect in ton-miles per train-hour. The fluctuations in ton-miles per train-hour may, in turn, be compared with fluctuations in the cost per gross ton-mile, reported on Form 6.

The time element has recognition also in Form 5, which shows as the final and inclusive unit of freight car efficiency, "Net ton-miles per car-day." This unit is the resultant of three factors:

1. Average ton-miles per loaded car-mile
2. Per cent of loaded car-miles to total car-miles
3. Average car-miles per car-day.

If, for example, the car-load is 30 net tons, the per cent of loaded to total car-miles is 70 per cent, and the car-miles per car-day are 30, the net ton-miles per car-day are 630 (car-load—30 tons—multiplied by per cent of loaded cars—.70—multiplied by car-miles per car-day—30). An improvement in any one factor favorably influences the inclusive unit; a loss in any one factor adversely affects it. If a campaign of intensive car loading brings about an increase of 10 per cent in the car-load, to 33 net tons, but also causes a slowing up in car movement of 10 per cent, to 27 miles per day, the road is no better off. In fact there is a slight loss, as the ton-miles per car-day will be 624 instead of 630. If, further, the heavier car loading increases the empty car movement, and thereby decreases the per cent of loaded car-miles to total car-miles, say to 67 per cent instead of 70 per cent, the inclusive unit —ton-miles per car-day—will suffer a further loss—597 instead of 630. The interrelation of these factors is often overlooked. From the single viewpoint of car performance there is no advantage in improving one factor if it is done at the expense of either or both of the other two factors.

It should be noted, however, that one factor in this composite unit is practically constant from the viewpoint of the roads as a whole. The total number of freight cars varies but slightly from month to month. It is affected only by additions through the purchase of new cars, by the retirement of old cars, and by the fluctuations in the daily number of cars belonging to private car lines and Canadian roads. These changes are relatively slight in their effect on the total, so that it may be said that the net ton-miles per car-day for the roads as a whole will fluctuate almost directly with increases or decreases in the volume of freight traffic. This is not so true of individual roads which have some control over the cars on their lines. In periods of thin traffic, each road endeavors to reduce its number of cars belonging to other roads. This has a tendency to shift the balance of surplus cars as between railroads and regions, but, of course, has no effect on the grand total.

In one other notable particular, the new plan recognizes the prime importance of the time element, that is in locomotive utilization. Heretofore, there were no complete data to show the distribution of the hours in the locomotive day. Form 4 contains the most radical elaboration of orthodox statistical practice, as it provides for the division of serviceable locomotive time between that spent in productive road service, that spent at terminals "standing by" both before and after the road run, and that spent in the enginehouse between trips. The latter item is sub-divided further to show how much of the time the locomotive is undergoing repairs or receiving other attention at the hands of the mechanical department forces, and how much of the time it remains idle in the enginehouse awaiting call from the transportation department.

An examination of the details of the hours of serviceable locomotives is facilitated by the requirement that the hours under each subdivision on the report shall be expressed also in percentages of total serviceable locomotive hours. Thus it is easy to compare the percentage of time on the road, at terminals and in enginehouses. When traffic is heavy it is desirable, of course, to show a high percentage of time in productive road service, and to take steps to control the unproductive hours at terminals and in enginehouses. When traffic is subnormal, it is inevitable that the time in the enginehouse (or as stored locomotives) will increase, but there is the same necessity for watching terminal time, as the crews are paid for the hours "standing by" at the same rate as on the road. The percentages, of course, show wide variations as between roads, reflecting differences in traffic conditions, in physical facilities, and in the policy of locomotive assignment—whether to single crews, double crews, multiple crews or to pooled crews. It is not safe to draw general conclusions from the figures alone without first hand information as to local conditions.

No attempt has been made by the Railroad Administration thus far to use the statistics for road-by-road comparisons. The figures, as reported, are summarized and published, but as comparisons with the preceding year will not be possible until the October, 1919, reports are received, the full value of the report for comparative purposes will not be apparent until the full year has elapsed. But even without the last year comparison the figures for the first year have been of value, as they give a clear picture which localizes the extent of the non-use of power. There is force to the assertion that under existing conditions, with a surplus of locomotives, the value of the data is not as great as when there is a shortage of power. The continuation of the record, however, provides a bench-mark for comparisons of future performance, and will have an educative value as all concerned learn to appreciate the full significance of the figures. The low percentage of time on the road will surprise many who have little conception of what it really is. The high percentage of time at terminals (in certain instances) will throw light on overtime payments. The data should be of importance to supervisory or executive officers in passing upon recommendations for the purchase or transfer of power, or as to the necessity for improvements at terminals and enginehouses.

The requirements of Form 4 brought some protests from roads which had no statistics of distribution of locomotive-hours, and which consequently were put to some additional expense in compiling the figures. The answer of the Railroad Administration was that while it recognized the difficulties which lie in increasing the percentage of hours on the road in productive service, yet it maintained that effective remedial measures may not be applied without a complete knowledge of the facts, not from casual observation or off-hand statements, but from a current and comprehensive record.

It is pertinent at this point to refer to one feature which is subject to misunderstanding, and concerning which the United States Railroad Administration has been criticized. Prior to federal control, the Railroads' War Board inaugurated a monthly *Summary of Freight Operation* which among other statistics, showed what was termed, "Per cent of freight locomotives in shop or awaiting shop." No clear definition was given, but it was generally understood by the reporting carriers to apply only to the locomotives held out of service for general or classified repairs, which are made in the general shops, and was not meant to embrace locomotives held out of service for running repairs or other light repairs which in most cases are made in the enginehouses, although often made in the general shops.

Under federal operation the monthly summary above referred to was continued without change in basis until October, 1918, when the standardized statistics became fully effective. Under the new plan, the policy is to hold the operating department to a high standard in locomotive utilization, and the dividing line between serviceable and unserviceable locomotives was set at those which are held 24 hours or more for repairs of any kind, whether running repairs or classified repairs. The record is kept on an hourly basis, and the average number of unserviceable locomotives per month is obtained by dividing the monthly aggregate hours of locomotives held 24 hours or more for repairs, by the total hours in the month. This change in method naturally brought about an apparently large increase in the percentage of unserviceable locomotives. The percentage (in freight service) on the last report on the old basis (September, 1918) was 14.8 per cent. On the first report on the new basis (October, 1918) it is shown as 25.1 per cent. Actually there was practically no difference in the condition of the locomotives in the two consecutive months. The difference is due entirely to the change in basis which was made under war conditions with a view to showing conditions in their worst light so that all concerned might be impressed with their responsibility for keeping locomotives employed to their maximum productive capacity. The use of the word "unserviceable" is somewhat strained, as it is not fairly accurate (although technically correct) to say that a locomotive which is held 24 hours for an hour's repairs, is "unserviceable." Yet the line had to be drawn definitely, and it was set at 24 hours delay for repairs of any kind.

As already stated the Administration has been criticized because its reports for July, 1919, show 27.2 per cent of freight locomotives unserviceable, while the July, 1918, report on the Railroads' War Board basis shows the percentage as 14.1 per cent. Practically all of the difference is due to the change in basis. The current summaries now bear the footnote:

> The factor of "unserviceable locomotives" here used is a factor designed to be correlated with performance in transportation and is not designed to reflect and does not reflect the physical condition of the equipment. The factor reflects not merely the need for repairs but also the extent of delay in obtaining the repairs; and does this not merely with respect to classified repairs, the need for which implies actual disability in the equipment, but also with respect to running repairs for which locomotives are held 24 hours or more. To ascertain the physical condition of the equipment reference should be made to the locomotives in shop or awaiting shop for classified repairs.

### *Separation of Freight Train Statistics by Directions*

On Form 1 all of the basic information and all of the averages or ratios are shown separately by directions—east, west and total. Where the movement of traffic as a whole is not east and west, it may be shown as north and south, or branches which run north or south may be combined with east or west according to traffic movement. The requirement of separation by direction is designed to throw light on the effect of unbalanced traffic, and to permit a separate analysis of the performance in each direction. Such an analysis is essential to an accurate determination of the effect of fluctuations by directions.

Freight traffic usually is unbalanced. There is usually what is called the "direction of prevailing traffic," although with seasonal or other traffic fluctuations it may alternate between east and west. Ordinarily it is unnecessary to pay much attention to train loading in the light direction, as the locomotives and crews in the direction of heavy traffic must be returned in the light direction with little regard to train loading. It may be, however, that the grades are easy in the direction of traffic and are heavy in the opposite direction. In that case it is probable that the train loading in the direction of light traffic requires the greatest supervision. In one specific case the westward gross tons normally are from 55 per cent to 65 per cent of the eastward gross tons, but the heaviest grades are against the westward movement. For a given type of locomotive the eastward rating is 2,000 gross tons; westward it is 1,200 tons, or 60 per cent of the eastward rating. It is plain, then, that in this case the eastward direction is controlling so long as the westward gross tons are not more than 60 per cent of the eastward gross tons. When it exceeds 60 per cent, it is the westward movement which controls the number of locomotives and crews.

This instance will illustrate the importance of the required separation in the statistics of traffic, of train-, locomotive-, and car-mileage, and of train-hours. Heretofore, its importance has been recognized in the statistical practice of but very few railroads.

## ACTUAL FIGURES FROM ONE REPORT.

Space will not permit the reproduction of all of the forms and summaries. A single example will suffice to show the design of one form, and to illustrate the completeness of the data pertaining to freight train operation. The report herein reproduced contains the actual figures of one railroad on Form 1 for the month of May, 1919, compared with May, 1918. In this case the road had unusually complete statistics for 1918, and was able to adapt its records to fit the comparative requirements of the new report.

In analyzing this report we note first that the gross ton-miles show a decrease of 20.4 per cent. This change in the actual gross production should be compared with the potential. The rating ton-miles show a decrease of 21.5 per cent. This comparison indicates an improvement in loading to the locomotive rating. A glance at Item 14 shows an increase of 1.4 per cent in the per cent of actual to potential. We note further, however, that the improvement occurred wholly in westward movement. The eastward performance shows a decrease in loading efficiency. The details by directions, under Items 5 and 6, show that the traffic is unbalanced, the prevailing direction being eastward. The

To be mailed, on or before 15th of following month, to Operating Statistics Section, Division of Operation, U S Railroad Administration, Washington, D C

UNITED STATES RAILROAD ADMINISTRATION
DIRECTOR GENERAL OF RAILROADS

Form OS-1
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(Revised Feb. 1-19)

A. B. & C. RAILROAD
(Name of reporting carrier)

# FREIGHT TRAIN PERFORMANCE

(Not including mixed, special, or motor car trains)

Month of MAY, 1919, compared with same month of previous year.

Increase, black
Decrease, red

| ITEM | MONTH OF MAY | | INCREASE OR DECREASE | |
|---|---|---|---|---|
| | THIS YEAR | LAST YEAR | AMOUNT | PER CENT |
| 1 (a) Average miles of road operated (*Note A*) | 3,563 2 | 3,561 2 | 2 0 | 1 |
| (b) Average miles other main tracks operated (*Note A*) | 25 3 | 25 3 | | |
| 2. Train miles (*Note B*). | | | | |
| (a) East | 181,796 | 261,469 | d 79,673 | d 30.5 |
| (b) West | 177,465 | 244,537 | d 67,072 | d 27 4 |
| (c) Total | 359,261 | 506,006 | d 146,745 | d 29 0 |
| 3. Locomotive miles (*Note B*): | | | | |
| (a) Principal and helper, east | 190,174 | 280,199 | d 90,025 | d 32 1 |
| (b) Principal and helper, west | 184,121 | 259,802 | d 75,681 | d 29 1 |
| (c) Total principal and helper, east and west | 374,295 | 540,001 | d 165,706 | d 30 7 |
| (d) Light, east | 2,195 | 3,057 | d 862 | d 28 2 |
| (e) Light, west | 6,431 | 16,349 | d 9,918 | d 60 7 |
| (f) Total light, east and west | 8,626 | 19,406 | d 10,780 | d 55 5 |
| (g) Grand total, east and west | 382,921 | 559,407 | d 176,486 | d 31 5 |
| 4. Car miles (*thousands*) (*Note B*): | | | | |
| (a) Loaded, east | 6,030 | 7,836 | d 1,806 | d 23 0 |
| (b) Loaded, west | 3,058 | 2,845 | 213 | 7 5 |
| (c) Loaded, total | 9,088 | 10,681 | d 1,593 | d 14 9 |
| (d) Empty, east | 704 | 856 | d 152 | d 17 8 |
| (e) Empty, west | 3,237 | 4,144 | d 907 | d 21 9 |
| (f) Empty, total | 3,941 | 5,000 | d 1,059 | d 21 2 |
| (g) Caboose, east | 186 | 281 | d 95 | d 33 8 |
| (h) Caboose, west | 183 | 263 | d 80 | d 30 4 |
| (i) Caboose, total | 369 | 544 | d 175 | d 32 2 |
| (j) Total, east | 6,920 | 8,973 | d 2,053 | d 22 9 |
| (k) Total, west | 6,478 | 7,252 | d 774 | d 10 7 |
| (l) Grand total | 13,398 | 16,225 | d 2,827 | d 17 4 |
| 5. Gross ton miles (*thousands*) (*Note C*): | | | | |
| (a) East | 267,713 | 362,186 | d 94,473 | d 26 1 |
| (b) West | 182,302 | 202,915 | d 20,613 | d 10 2 |
| (c) Total | 450,015 | 565,101 | d 115,086 | d 20 4 |
| 6. Rating ton miles (*thousands*) (*Note D*). | | | | |
| (a) East | 299,506 | 399,123 | d 99,617 | d 25.0 |
| (b) West | 268,963 | 324,897 | d 55,934 | d 17.2 |
| (c) Total | 568,469 | 724,020 | d 155,551 | d 21.5 |
| 7. Net ton miles (*thousands*) (*Note E*): | | | | |
| (a) East | 128,001 | 184,919 | d 56,918 | d 30.8 |
| (b) West | 55,322 | 60,429 | d 5,107 | d 8 5 |
| (c) Total | 183,323 | 245,348 | d 62,025 | d 25 3 |
| 8. Train hours (*Note F*): | | | | |
| (a) East | 16,029 | 22,970 | d 6,941 | d 30 2 |
| (b) West | 16,126 | 20,385 | d 4,259 | d 20 9 |
| (c) Total | 32,155 | 43,355 | d 11,200 | d 25 8 |

## NOTES

(A) Miles of road—miles of first running track Miles other main tracks—miles of second, third, fourth, or other multiple running tracks, not including yard tracks and sidings

(B) Follow "Classification of train miles, locomotive miles, and car miles," Interstate Commerce Commission, July 1, 1914 Include electric locomotive trains, but exclude mixed, special, and motor car trains Train miles—Account 801, both ordinary and light; locomotive miles—Account 811; car miles—Account 821 Where movement of traffic as a whole is not east and west, substitute north for east and south for west, or combine north and south with east and west according to traffic movement.

(C) Gross ton miles—tons of 2,000 lbs behind locomotive tender (cars, contents, and caboose) moved one mile; to be computed from conductors' train reports. Include electric locomotive trains, but exclude mixed, special, and motor car trains.

(D) Rating ton miles—the potential gross ton miles which would have been produced had all trains been loaded to 100 per cent of the slow freight rating for normal weather conditions, taking account of changes in rating over sections of the run. When the potential train load in the direction of favoring grades is now expressed in number of cars an arbitrary tonnage rating should be used as the basis for Item 6.

UNITED STATES RAILROAD ADMINISTRATION
DIRECTOR GENERAL OF RAILROADS

Form OS-1
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(Revised Feb. 1-19)

A. B. & C. RAILROAD
(Name of reporting carrier)

## FREIGHT TRAIN PERFORMANCE

(Not including mixed, special, or motor car trains)

Month of MAY, 1919, compared with same month of previous year.

Increase, black.
Decrease, red.

| ITEM | MONTH OF MAY | | INCREASE OR DECREASE | |
|---|---|---|---|---|
| | THIS YEAR | LAST YEAR | AMOUNT | PER CENT |
| AVERAGES | | | | |
| 9. Per freight train mile: | | | | |
| (a) Locomotive miles, east (*excl. light*) . (*3a ÷ 2a*) | 1.046 | 1.072 | d .026 | d 2.4 |
| (b) Locomotive miles, west (*excl. light*) . . . (*3b ÷ 2b*) | 1.038 | 1.062 | d .024 | d 2.3 |
| (c) Locomotive miles, total (*excl. light*) . . . (*3c ÷ 2c*) | 1.042 | 1.067 | d .025 | d 2.3 |
| (d) Loaded car miles, east. . . . . . . . . . (*4a ÷ 2a*) | 33.2 | 30.0 | 3.2 | 10.7 |
| (e) Loaded car miles, west . . . . . . . . . . . . . (*4b ÷ 2b*) | 17.2 | 11.6 | 5.6 | 48.3 |
| (f) Loaded car miles, total. . . . . . . . . . . (*4c ÷ 2c*) | 25.3 | 21.1 | 4.2 | 19.9 |
| (g) Empty and caboose car miles, east (*4d + 4g*) ÷ *2a* | 4.9 | 4.3 | .6 | 14.0 |
| (h) Empty and caboose car miles, west (*4e + 4h*) ÷ *2b* | 19.3 | 18.0 | 1.3 | 7.2 |
| (i) Empty and caboose car miles, total (*4f + 4i*) ÷ *2c* | 12.0 | 11.0 | 1.0 | 9.1 |
| (j) Total car miles, east. . . . . . . . . . . . (*4j ÷ 2a*) | 38.1 | 34.3 | 3.8 | 11.1 |
| (k) Total car miles, west . . . . . . . . . . (*4k ÷ 2b*) | 36.5 | 29.7 | 6.8 | 22.9 |
| (l) Total car miles, total . . . . . . . . . . . . (*4l ÷ 2c*) | 37.3 | 32.1 | 5.2 | 16.2 |
| (m) Gross ton miles, east . . . . . . . . . (*5a ÷ 2a*) | 1,472.6 | 1,385.2 | 87.4 | 6.3 |
| (n) Gross ton miles, west . . . . . . . . (*5b ÷ 2b*) | 1,027.3 | 829.8 | 197.5 | 23.8 |
| (o) Gross ton miles, total. . . . . . . (*5c ÷ 2c*) | 1,252.6 | 1,116.8 | 135.8 | 12.2 |
| (p) Rating ton miles, east. . . . . . . (*6a ÷ 2a*) | 1,647.5 | 1,526.5 | 121.0 | 7.9 |
| (q) Rating ton miles, west . . . . . . . . . (*6b ÷ 2b*) | 1,515.6 | 1,328.6 | 187.0 | 14.1 |
| (r) Rating ton miles, total. . . . . . . . . . (*6c ÷ 2c*) | 1,582.3 | 1,430.9 | 151.4 | 10.6 |
| (s) Net ton miles, east. . . . . . . . . . . . . . . (*7a ÷ 2a*) | 704.1 | 707.2 | d 3.1 | d .4 |
| (t) Net ton miles, west . . . . . . . . . . . (*7b ÷ 2b*) | 311.7 | 247.1 | 64.6 | 26.1 |
| (u) Net ton miles, total. . . . . . . . . . . . . . . (*7c ÷ 2c*) | 510.3 | 484.9 | 25.4 | 5.2 |
| 10. Per freight train hour: | | | | |
| (a) Train miles, east (*speed in miles per hour*) (*2a ÷ 8a*) | 11.3 | 11.4 | d .1 | d .9 |
| (b) Train miles, west (*speed in miles per hour*) . . . . . . . . . . . . (*2b ÷ 8b*) | 11.0 | 12.0 | d 1.0 | d 8.3 |
| (c) Train miles, total (*speed in miles per hour*) . . . . . . . . . . . . . . . (*2c ÷ 8c*) | 11.2 | 11.7 | d .5 | d 4.3 |
| (d) Gross ton miles, east . . . . . . . . . . . (*5a ÷ 8a*) | 16,701.8 | 15,767.8 | 934.0 | 5.9 |
| (e) Gross ton miles, west . . . . . . . . . . . (*5b ÷ 8b*) | 11,304.8 | 9,954.1 | 1,350.7 | 13.6 |
| (f) Gross ton miles, total. . . . . . . . . . . . (*5c ÷ 8c*) | 13,995.2 | 13,034.3 | 960.9 | 7.4 |
| (g) Net ton miles, east. . . . . . . . . . . . . . (*7a ÷ 8a*) | 7,985.6 | 8,050.5 | d 64.9 | d .8 |
| (h) Net ton miles, west . . . . . . . . (*7b ÷ 8b*) | 3,430.6 | 2,964.4 | 466.2 | 15.7 |
| (i) Net ton miles, total . . . . . . . . (*7c ÷ 8c*) | 5,701.2 | 5,659.0 | 42.2 | .7 |
| 11. Net ton miles per loaded car mile: | | | | |
| (a) East. . . . . . . . . . . . . . . . . . . . . . . . . (*7a ÷ 4a*) | 21.2 | 23.6 | d 2.4 | d 10.2 |
| (b) West. . . . . . . . . . . . . . . . . . . . . . . (*7b ÷ 4b*) | 18.1 | 21.2 | d 3.1 | d 14.6 |
| (c) Total . . . . . . . . . . . . . . . . . . . . . (*7c ÷ 4c*) | 20.2 | 23.0 | d 2.8 | d 12.2 |
| 12. Per cent loaded to total car miles (*excl. caboose*): | | | | |
| (a) East. . . . . . . . . . . . . . . . . . . . *4a* ÷ (*4a* + *4d*) | 89.5 | 90.2 | d .7 | d .8 |
| (b) West . . . . . . . . . . . . . . . . . . . *4b* ÷ (*4b* + *4e*) | 48.6 | 40.7 | 7.9 | 19.4 |
| (c) Total. . . . . . . . . . . . . . . . . . . . *4c* ÷ (*4c* + *4f*) | 69.8 | 68.1 | 1.7 | 2.5 |
| 13. Per cent net ton miles to gross ton miles. | | | | |
| (a) East. . . . . . . . . . . . . . . . . . . . . . . . (*7a ÷ 5a*) | 47.8 | 51.1 | d 3.3 | d 6.5 |
| (b) West. . . . . . . . . . . . . . . . . . . . . . . . (*7b ÷ 5b*) | 30.3 | 29.8 | .5 | 1.7 |
| (c) Total. . . . . . . . . . . . . . . . . . . . . . . . (*7c ÷ 5c*) | 40.7 | 43.4 | d 2.7 | d 6.2 |
| 14. Per cent gross ton miles to rating ton miles: | | | | |
| (a) East . . . . . . . . . . . . . . . . . . . . . . . . . . (*5a ÷ 6a*) | 89.4 | 90.7 | d 1.3 | d 1.4 |
| (b) West . . . . . . . . . . . . . . . . . . . . . . . . . (*5b ÷ 6b*) | 67.8 | 62.5 | 5.3 | 8.5 |
| (c) Total . . . . . . . . . . . . . . . . . . . . . . . . . . (*5c ÷ 6c*) | 79.2 | 78.1 | 1.1 | 1.4 |

(E) Net ton miles—tons of revenue and nonrevenue freight moved one mile; to be computed from the conductors' train reports

(F) Train hours—the elapsed time of trains between the time of leaving initial terminals and time of arrival at final terminals, including delays on the road. May be taken from conductors' train reports or from dispatchers' train sheets percentages of decrease show that the loss in traffic both in gross and net (particularly in net) was relatively greater eastward than westward.

The next step is to compare the gross ton-miles with the train-miles. The percentages of change are 20.4 per cent decrease in gross ton-miles and 29.0 per cent decrease in train-miles. These figures indicate an improvement in the train-load. The results are shown in Item 9. The eastward gross train-load shows an increase of 6.3 per cent, the westward load an increase of 23.8 per cent, and in both directions combined, the increase is 12.2 per cent.

Attention should now be directed to the relation between locomotive-miles and train-miles. The train-miles show a decrease of 29.0 per cent. The decrease in principal and helper locomotive-miles is 30.7 per cent. We note in passing that there has been a substantial saving in light locomotive-miles—locomotives run without trains. The relation between the train-miles and locomotive-miles is seen in Item 9, which shows a decrease of 2.3 per cent in the locomotive-miles per train-mile. It is evident, therefore, that the increase in the train-load was not due to the greater use of multiple locomotives.

It might be of interest in this case to ascertain why the locomotive-miles decreased relatively more than the rating ton-miles. A simple computation (Item 6-c divided by Item 3-c) shows that the average rating per locomotive in 1919 was 1,519 as against 1,341 in 1918. This difference indicates one or more of six things: (1) the acquisition of new locomotives of greater power; (2) the relatively greater use of heavier power and relatively smaller use of lighter power, the latter being stored; (3) the application of superheaters to locomotives not heretofore so equipped; (4) an upward revision of tonnage ratings; (5) relatively more traffic on the divisions which have the heavier tonnage ratings; or (6) grade rivisions which permit of heavier train loading. In this particular case the increase in the average rating is due to a combination of four out of the six reasons just suggested.

One reason for the better westward performance is seen in the car-miles. They show a heavy decrease in loads eastward, but westward we find an increase of 7.5 per cent. It is of interest here to glance at the average car-load, Item 11. It shows a loss of 12.2 per cent, with but little difference in the change as between directions. The difference between directions is greater, however, in the per cent of loaded to total car-miles. Eastward the proportion of loads decreased slightly while in the westward direction there is an increase of 19.4 per cent. Both the car-load and the percentage of loaded cars have a material effect on the car-load, as it is possible to handle a greater gross train-tonnage in heavily loaded cars with few empty cars, than in lightly loaded cars with a large proportion of empties. The unit resistance (per ton) of an empty car is approximately twice as great as that of a car loaded to its weight capacity. A locomotive on a given run may be able to haul 3,000 gross tons in fully loaded coal cars, yet be unable to haul more than 2,400 gross tons of empty or very lightly loaded cars.

Attention may next be directed to the net ton-miles so as to see the relation between the paying load and the gross load of the train. It is noted that the net ton-miles show a decrease of 25.3 per cent, the loss being much greater eastward. As the loss in gross ton-miles is 20.4 per cent, it is plain that the net ton-miles this year bear a lower percentage to gross. The details are shown in Item 13. The loss was altogether in eastward movement. Its per cent of net to gross is 6.5 per cent less than last year, while the westward movement shows an increase of 1.7 per cent, the combined unit showing a loss of 6.2 per cent.

Now, we may examine the effect of the time element. Train-hours show a decrease of 25.8 per cent, while train-miles show a decrease of 29.0 per cent. This indicates a loss in train-speed. Item 10 shows the extent of the loss—4.3 per cent decrease in miles per hour. The decrease is greater in the westward direction.

The combined effect of changes in gross train-load and speed is shown in the gross ton-miles per train-hour. In this case there is a gain in one factor and a loss in the other factor. The gross train-load shows an increase of 12.2 per cent; the train speed shows a decrease of 4.3 per cent. The gain in the load was sufficient to offset the loss in the speed, consequently we find an increase of 7.4 per cent in gross ton-miles per train-hour.

Finally, we may turn to the unit which is the net result of those already discussed—the net ton-miles per train-hour. The figures show a slight improvement—an increase of 0.7 per cent. The eastward performance shows a loss of 0.8 per cent, but the westward performance reflects a gain of 15.7 per cent. The relatively small gain in net ton-miles per train-hour, compared with gross ton-miles per train-hour, is due to the lower ratio of total net ton-miles to total gross ton-miles. And, as already stated, this is due to a smaller car-load, although the loss in that factor is lessened by a relatively smaller gain in the per cent of loaded to total car-miles.

The foregoing comments are intended merely to be suggestive. No two persons will follow the same order in undertaking an analysis of the figures. It is plain, however, that whether we proceed from the basic data to the final inclusive unit, or work backward from that unit, it is easy to trace the effect of the changes in each factor, and to proceed with intelligent inquiries designed to bring out the reasons for the relatively poorer performance in the one direction. The statistics on this form should, of course, be compared with those on the reports of locomotive performance, of distribution of locomotive hours, of freight car performance, and of locomotive and train costs, as they are all interrelated.

## PUBLICATION OF SUMMARIES

Reference has already been made to the fact that the policy of the United States Railroad Administration is to disseminate the statistical summaries so that the Federal Managers and other operating officials of the individual roads may have complete and current information, not only with respect to their own performance, but also with respect to the comparative statistics of all other railroads. This is accomplished by monthly summaries which show for each road and for each region the more important items compiled from the individual reports on Forms 1 to 8, inclusive. These summaries are:

Freight Train and Freight Locomotive Performance (based on Forms 1 and 3).

Passenger Train and Passenger Locomotive Performance (based on Forms 2 and 3).

Number of Locomotives and Distribution of Locomotive Hours (based on Form 4).

Freight Traffic Movement and Car Performance (based on Form 5).

Freight Locomotive and Freight Train Costs (based on Form 6).

Condensed Income Account (based on Form 7).
Passengers Carried One Mile (based on Form 8).

The data, with two exceptions, are shown both for the current and the previous year, with the percentages of increase or decrease in the significant items. The two exceptions are the summaries of Forms 1 and 4. Complete comparison with the previous year will not be practicable until October, 1919, as the general compilation of gross ton-miles, rating ton-miles and train-hours on Form 1, and the distribution of locomotive-hours on Form 4, were not fully under way until October, 1918.

## SUMMARY

In conclusion it may be stated briefly that the United States Railroad Administration, in the narrower field of operating statistics, has brought about in unification and standardization, practically what the Interstate Commerce Commission has done in the broader field of railroad accounting. The new plan of operating statistics supplements and fits into the accounting requirements of the Interstate Commerce Commission, and requires no duplication of accounting work. The new forms which pertain to freight performance and the utilization of locomotives and freight cars, are much in advance of the previous practice, and place special emphasis on the importance of the time element in train, locomotive and car performance. Gross ton-mile and train-hour statistics are now universally available, the freight train data are now available by directions, and the new basis for compiling net ton-miles provides statistics which are properly comparable with train-, locomotive-, car- and gross ton-miles.

The figures are now available much earlier than was previously the case, and the monthly summaries, generously distributed, enable each operating official to compare his results with those of his neighbors without the former uncertainties and qualifications as to bases and methods.

The new plan has accomplished its primary purpose of providing the Director General and his staff with the basic data and the significant averages, ratios and unit costs which relate to or furnish indices of operating efficiency. It has also done much, as a secondary but equally important purpose, in inspiring an added interest in the figures among Federal Managers and their subordinates. It is realized that statistics are valuable only to the extent that they are studied and their indications acted upon, and that the greatest measure of value comes from local rather than from central use. There is gratifying evidence of a tendency locally to take more interest in the returns, and to go to a greater extent in making comparisons with other roads and regions. This greater interest on the part of those directly responsible for results must inevitably be translated into terms of increased efficiency.

Unfortunately, it is not possible to measure the effect in any definite terms, as the efficiency of operation during the period of the war and since the signing of the armistice has been so greatly influenced by other factors, such as decreased traffic, higher material costs, increased wages, shorter working hours, loss of experienced employes, and high labor turnover, as to overshadow the benefits inherent in the new statistical plan. It is clearly evident, however, that the higher material costs and increased wage rates make it necessary, in greater degree than ever before, that those in authority should have complete and accurate statistics as aids to intelligent management. It is plain, also, that whatever the plan of railroad management subsequent to federal control, it will be highly desirable to continue a statistical policy which will afford accurate and complete comparisons of operating efficiency.

# The Abolition of The Off-Line Offices

### By Charlton A. Swope

Secretary of The Traffic Club of New York

OFF-LINE offices of railroad corporations are, or were, commercial offices located distant, short or long, from the terminal rails of the parent company. They were seldom known, technically, as off-line offices until the idea of closing them arbitrarily appeared. They were known as commercial offices and any change in name does not necessarily change their character except to describe their location.

Commercial offices were the result of the progressive development of the transportation systems and were as much a necessity as any other division of operation, except that they could be abandoned without actual paralysis and the result was comparative instead of exact determination.

To be somewhat more explicit, when the President, by proclamation, under the act of Congress, seized the railroads, and established a bureau for their operation under the jurisdiction of the Director General of Railroads, many problems were confronted, and a staff of railroad managers was established, divided into the old well marked divisions of operation, accounting, traffic, etc. The Division of Traffic, soon after its establishment, upon very short notice, decreed that all commercial off-line offices should be closed; that the furniture should be sold, given away or returned to the home offices; that the leases for the offices should be surrendered, or in the event of failure in this direction that the offices should be sub-let where possible. The employes were to be taken care of, as far as practicable, by removal to positions on the line of road. There is no doubt that it was the intention of the Railroad Administration to be fair and to impose no undue hardship upon the parent company, the employe or the public. If it is now to be considered a mistake, the difficulty lies in the admission of it, and owing to the complications which have resulted from government operation nothing in this particular matter is likely to be done until the return of the roads to their owners.

The war necessity covered a lot of arbitrary actions and while admitting that the main object was to win the war regardless, the question in hand must be treated from a posterior position if it is to be the subject of any discussion at all. The question of whether there was any necessity of seizing the railroads for government operation must be eliminated. Congress decided there was a possibility of the necessity, and the President decided there was the necessity. The adherents of good government must be content and argument ceases. Truly we have had too many examples of opposition to organized government to argue against the wisdom of the decision of the majority. However, the law of infallibility does not apply, and the Director General of Railroads, I assume, does not make any claim for such infallibility.

Transportation companies have a commodity to sell—transportation. The sale of a commodity requires salesmen. The agents located in the off-line offices were salesmen, offering to the public the transportation manufactured by their employers. It is very easy to see that when the conclusion was reached that competition was destroyed that there was no longer a necessity for salesmen and they were abolished. The fatal mistake was that there was a failure to recognize that the off-line offices were of as much, if not more, importance to the public than to their employers. This is easily proven to those familiar with all the facts and conditions. Why it was not apparent to the Railroad Administration is not quite understandable. The Director General of Railroads half-heartedly admitted as much, as will be shown later.

In all lines of business there is competition. In the transportation business there was, for years, excessive competition. There was competition in the quantity of the rate, but that was wisely eliminated by law many years since. There was competition of service, of as much importance as the competition of rate, especially under war conditions, and it was in this respect that the off-line office was of such importance to the public. One must have had the experience to appreciate what it meant to close up thousands of offices which were fixtures and the outgrowth of years, to understand the vital effects attending such action.

The argument for the abolition of these offices is sound if you have no regard for the convenience of the public, but no transportation company can operate successfully without the success of its patrons. I ask those responsible for this action to inquire of any patron of a railroad. They accepted the hardship, not willingly, but because of lack of a method of appeal. The gain was a modicum of economy which cannot be proven. Offices were for long periods vacant with rent chargeable to railroad operation, and some of them have never been rented.

Under the head of off-line offices was included both freight and passenger representation. Owing to the difference in the nature of the service performed the passenger and freight representation of the off-line offices was separate and distinct, each department having its own representative, independent of each other, and in many cases, especially in the larger cities, the locations of the offices were in different places.

In the case of the closing of the off-line passenger offices, the necessities were fairly met by the opening of one or several consolidated ticket offices. These consolidated ticket offices represented primarily the initial lines, and were an economy reasonably justified by the conditions. Upon the whole the plan has worked well, and probably may be continued under any adjustment of future railroad operation. The foreign line, under this plan, is only nominally represented, but it can with justice be argued that the elimination of competition eliminated the necessity for the passenger organization, especially when, in trunk line territory for instance, it has been a fact for years that off-line offices were not in a position to sell direct to their patrons anything but local tickets over their own lines (except as they secured through tickets, as ordered, from the initial line) and that the total sales of tickets did not in some cases pay for the expenses of the organization.

I hope it may not be considered that the writer is taking any narrow view of the problem in this treatment of the passenger feature of the closing of the off-line offices. I do not think the facts are easily controverted, and at the same time I know it is the opinion of well informed railroad people that the condition as to passenger representation had a great deal to do with the final decision of the Railroad Administration in its arbitrary action in respect to the closing of off-line offices. On the other hand, I think it can be clearly shown that the closing of freight department offices was a mistake from almost any point of view, and that such closing has had as much to do as any other one thing in the well pronounced aversion of the public to a continuation of the governmental operation of the railroads.

Primarily these offices were established for competition and it is true from the standpoint alone of the railroad corporations they were continued and maintained for this reason. Therefore from this point of view their abandonment was not of great importance. But they had grown to be of great value and importance to the public, and as it is well known that little consideration was given to the public in the operation of the railroads during the war period, it would seem that upon more deliberate consideration this very important adjunct of operation could have been left undisturbed and that the small economy effected was not justified by the results.

In the "Declaration of Policy" issued by the former Director General of Railroads, W. G. McAdoo, June 17th, 1918, appears the following:

> The policy of the United States Railroad Administration has been formed and shaped by a desire to accomplish the following purposes which are named in what I conceive to be the order of their importance:
>
> First. The winning of the war, which includes the prompt movement of the men and material that the Government requires. To this everything else must be subordinated.
>
> Second. The service of the public, which is the purpose for which the railways were built and given the privileges accorded them. This implies the maintenance and improvement of the railroad properties so that adequate transportation facilities will be provided at the lowest cost, the object of the Government being to furnish service rather than to make money.

Now let us see how well the Railroad Administration carried out this declaration of policy.

The Traffic Club of New York, soon after the declaration of the intention to close the off-line offices, appointed a committee, consisting of some of its most prominent and influential members, to protest to the Railroad Administration against such closing. This committee consisted of the following members of The Traffic Club:

J. C. Lincoln, Manager, The Traffic Bureau, The Merchants Association of New York

C. J. Austin, Traffic Manager, New York Produce Exchange
R. S. French, General Manager and Secretary, National League of Commission Merchants
E. J. Tarof, Traffic Manager, The Brunswick-Balke-Collender Co., Chairman of the Transportation Committee of the New York Board of Trade and Transportation
P. M. Ripley, Traffic Manager, American Sugar Refining Co.
T. T. Harkrader, Traffic Manager, The American Tobacco Co.
Allan Wallace, Traffic Manager, The H. W. Johns-Manville Co.

This committee protested to the Railroad Administration against the closing of the off-line offices, and receiving no encouragement, it formulated suggestions and recommendations for the establishment in New York City of four Central Bureaus in order that the shipping public be fully advised of the necessary information regarding general movement and freight rates covering off-line shipments. The Central Bureaus recommended by this Committee were as follows:

No. 1. The establishment of a Central Freight Tariff Bureau.
No. 2. The establishment of a Central Bureau for the issuance of Trans-Pacific Export Bills of Lading.
No. 3. The establishment of a Central Bureau to furnish passing records.
No. 4. The establishment of a Central Bureau for the issuance of Embargo Notices and Embargo Information.

These recommendations were made in May, 1918, to the Railroad Administration through its Director of the Division of Traffic. They were received favorably at first, but after long negotiation nothing whatever was done except that almost a year later a Bureau was established for the issuance of Trans-Pacific Export Bills of Lading. No explanation has ever been given by the Railroad Administration as to why some arrangement was not made to take care of the public necessities so ruthlessly ignored.

In the "Statement of Hon. W. G. McAdoo, Director General of Railroads, before the Interstate Commerce Committee of the United States Senate," issued January 3rd, 1919, appears the following:

> PUBLIC SERVICE FREIGHT BUREAUS
>
> Under private control of railroads, and for competitive reasons, practically

all railroads maintain so-called off-line agencies, the original function of which was solicitation of traffic. These off-line agencies were abandoned by the Railroad Administration for the reason that the competitive causes which gave rise to their establishment no longer existed. *It was found, however, that in some measure these agencies had performed real service to the public, and therefore the establishment of public-service freight bureaus has been begun with a force trained to handle for shippers matters which were formerly handled by the off-line agencies.*

I submit that it must have been embarrassing to the Railroad Administration to have to admit, after seven or eight months, a fact which should have been within the knowledge of the experienced traffic men who were responsible for the order at the time it was given, and especially when it is well known that the closing of the offices was protested by commercial bodies and individual shippers all over the United States. It will be noted particularly that the Director General states that the establishment of public-service freight bureaus has begun (after almost a year of neglect) and then is to be added the indisputable fact that such public-service freight bureaus have never to this day been established. It is true that a shadow of an attempt was made to do so by establishing a representative at the information desk located in the consolidated ticket offices to answer inquiries as to freight transportation, but this so little met the requirements that it was farcical. In addition, in Eastern territory, the trunk line general offices were "ordered" to provide themselves with tariffs and information to serve the public as to certain designated lines. This was no less farcical than the other plan, and it cannot be successfully denied that it proved to be so. These initial lines were already overburdened, with the impossibility, on account of the draft, of getting competent help. It was a failure also because freight rate information can be supplied only by those familiar with the tariffs they are handling, and such skill can only be acquired by years of training. Other information, such as suitable locations for plants, tunnel and bridge clearances, terminal facilities and train schedules can be supplied only by those who have made a special study of the parent line. Car passing reports, one of the greatest advances in modern transportation, were absolutely abandoned, leaving the helpless shipper to the mercy of kind Providence as to the arrival or ultimate disposition of his property. The quagmire of embargo notices was impenetrable.

No blacker spot appears on the government operation of the railroads than this unjustifiable action, for the saving of a small fraction of one per cent of the cost of operation, and for this destruction of the vital necessities to the conduct of legitimate business. I am confident that the use of this strong language will be approved by many if not all shippers, and the only reason for submission was the war necessity and the well known futility of continued protest.

There can be no discussion of the treatment of labor in this article, but it would seem to be a travesty upon justice that organized labor should be so well taken care of while so little thought was given to men who had spent their lives in the service of the railroads and who were equipped by experience and knowledge to give the public the service it so insistently demanded and needed. In some cases such employes, sixty years of age and over, and of thirty years and more of continuous service, were abandoned to drift from pillar to post seeking any employment which would save them and their families from actual want and starvation. Men who were almost entitled to retirement were thrown out in their old age and forced to attempt to begin life over again. Truly there was no necessity of winning the war which compelled any such hardships or warranted any such mistake of judgment on the part of men entrusted with government operation of the railroads. To the credit of the managers of the railroads they attempted to do what they could to temper the hardships, but the task was difficult and in many instances did not succeed. The policy was not generally carried out in the case of the aged employes who had a right to expect that they would have consideration for the many years of faithful service.

The attempt to show that government operation and ownership was the panacea for all ills has met the fate it deserves. The only class that now wants it or will tolerate it is the class which has received the only profits from it.

# The Case for Government Operation and Ownership

By Wilber L. Stonex
Philadelphia, Pa.

UNTIL comparatively recently the theory of those favoring the private management of public institutions was that a few were wiser and more capable than the many and that every such institution, whether operated for profit or not, should be kept out of the control of the general public. Accordingly the schools, libraries, hospitals and all charitable institutions were at first controlled by the church acting through its ecclesiastics and later to a considerable extent through corporations usually self-perpetuating. Little by little such institutions have come with increasing number under public control, and this fact itself sufficiently proves that the people as a whole are satisfied with the result; and very few can deny that the result has been an enormous gain both in the quality of the service rendered by these institutions and in the efficiency of their administration.

The same is true of transportation facilities. In the early days of this country the poverty of the people and their inability to pay taxes forced them in many cases to grant to private individuals and to quasi-public corporations the right to construct and operate the more costly of these facilities and to collect fees from those using them for their reimbursement. It was in this way that the toll-roads and toll-bridges came into existence. This, however, was recognized to be a temporary expedient only; and gradually the people have taken over and given free service of these facilities, the private control of which in every case had come to be recognized as detrimental to the public interest. In acquiring them the public authorities generally borrowed money for the purpose and then paid off the indebtedness incurred by levying taxes on the property of those benefited. The levy of such taxes was in all material respects identical with the assessment of stockholders in private corporations, the benefits accruing from the free use of the utility being the equivalent of a dividend.

These general propositions apply as well to ferries, street railways and all other public utilities which require operation as well as maintenance and for which it is necessary to charge fares or rates. In these cases the fundamental difference between private and public operation is that under public management the primary purpose is to provide efficient service at the minimum cost, while under private management the primary purpose is to pay the largest possible dividends to the relatively small number who are in possession of the utility and for that purpose to charge the public all that the traffic will bear.

The temptation to private owners to exploit the public is irresistible and the results invariably are detrimental to the public, not only in a material way but by corrupting the public morals, as it almost always leads to the perversion of public officials and to the undue enriching of a few by reprehensible methods. This is especially true where the utility is a monopoly.

The largest single monopolistic public utility now under private control is that part of the national transportation service consisting of the railroads. In applying to it the principles I have laid down it is necessary to consider the railroads as a unit, for that is the relation they sustain to the public. That the railroads are public highways and that "the function performed is that of the state" is not open to question. This was settled long ago by the Supreme Court of the United States,[1] and the right of the government to acquire and operate them is as well settled as the right of a state to acquire a toll-road, or of a city to acquire and operate a street railway or a ferry. The only question to consider is whether the interests of the public can be better served if the service is rendered directly by the public through its own employes or indirectly through the agency of a public service corporation privately administered.

In considering this question it is necessary to bear in mind that for nearly three-quarters of a century the railroads have been privately operated under regulations of the state and federal government, and that they have never been operated by the government, except for less than two years and then under abnormal conditions which the private managers had been unable to meet, and that the carrying out of the details of this operation remained with those who were operating the roads when they were taken over by the government—the general manager of all the lines in the eastern territory being the president of the New York Central company. Because of this a comparison of the two methods can be made only by pointing out some of the evil conditions which have always been a feature of private management in spite of all attempts to regulate them in the public interest; and assuming in this case that, as in all others, public operation as the only alternative would be more satisfactory to the public. In this necessarily brief paper I shall limit my presentation of the case to the principal evils invariably resulting from the conflict of private with public interests.

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[1] Olcott vs. Supervisors, 83 U. S, 678.

The one harmful feature of private management which began earliest and has continued longest and caused the greatest loss to the public is that commonly called *stock-watering*. Closely associated with this as a feature of all railroad financiering under private management has been the basing of issues of bonds and stocks on the dividend paying capacity—actual and anticipated—of each road, and not on the amount of capital invested. If a road is prosperous these capital obligations are never reduced but are steadily increased. The stock and bond issues of the Pennsylvania company, for instance, issued and authorized, increased from $217,000,000 in 1900, to $1,000,000,000 at the beginning of 1919.

The methods adopted to bring about both these forms of overcapitalization have been as varied as ingenious. The result has been to make it impossible to tell what the amount invested by its stockholders in any railroad has been, and to enable them to claim the right to establish rates sufficient to pay, in addition to the cost of maintenance and operation, interest on their bonds and apparently moderate dividends on their stock. The amount of these issues runs into the billions. In the period from 1900 to 1916, inclusive, the stock issues alone have increased from $5,845,570,000, to $8,743,106,000, of which 45.66 per cent was paying dividends in 1900 and 60.38 in 1916; and the average dividend rate on the dividend paying stock had increased from 5.23 per cent in 1900, to 6.45 in 1916.

These evils would at once disappear if the government should acquire and operate its railroads, for the stocks acquired by it would be paid for by the issue of low-rate interest-bonds, and the outstanding bonds of the railroads at their maturity would be paid in the same way. The saving to the people by this alone would amount to an enormous sum annually. And following the unbroken precedents of all public financiering, taxation would be resorted to in order to reduce the amount of the bond issues until, as in the case of ordinary highways, canals, and all other property owned by the people, the indebtedness would be eventually paid, after which the railroads could be operated on the basis of the actual cost of maintenance and operation. This, I may note in passing, is the policy adopted for the Erie Canal in which the legislature authorizing its construction specifically provides for state taxation for the payment of the bonds issued for its construction.

One inevitable effect of overcapitalization of the railroads has been the depreciation of the credit of the companies to such an extent that they now turn to the government to provide funds for their maintenance—the purchase of rails and rolling stock. It has also reacted disadvantageously on the public as it has imposed capital obligations in many cases far exceeding the cost of construction of new lines. This has forced the overcapitalized companies to prevent the building of additional railroads; to oppose every appropriation by the public for the improvement of ordinary highways and canals; and even to buy up and destroy canals and steamboats to prevent competition. And for such purchases they issue more bonds and stock!

How this policy has been carried out to destroy coastwise water transportation is graphically described by Professor Van Metre in a paper published in *The Traffic World* of November 30, 1918. The following may be fairly taken as an illustration of its application in every case where the private managers meet or fear competition:

> If coastwise transportation is cheap and practical, why is it that with the great increase in the general productivity and commerce of the country the coastwise shipping business has not made satisfactory progress? The answer is merely that the business has been kept under control and wilfully suppressed by the railroad interests of the country. Virtually all of the coastwise lines on the Atlantic coast have for many years been directly controlled by or closely affiliated with powerful railroad interests, and these interests have also obtained control of a large portion of the water front of the leading seaports. . . . Time after time companies organized to carry on a coastwise shipping business

> have been destroyed by unfair methods of competition by railroads. . . . . The printed testimony of the committee's (House Committee on the merchant marine and fisheries, 1912–13) report is replete with actual instances of how, by these methods and by others equally reprehensible, the established transportation interests of the Atlantic and Pacific coasts had to the detriment of the commercial interests of the entire country throttled attempts at competition and caused investors in independent coastwise shipping companies to lose millions of dollars. . . . . Nothing accomplished by the railroad companies in their efforts to perpetuate their monopolistic power has resulted in greater loss to the country than the suppression of the coastwise shipping business.

The enormous development of our country and its commerce demands the extension of its railroad facilities. These the railroad companies should but do not provide. In 1905 the Interstate Commerce Commission reported that a prominent railroad president had declared that the traffic offered for transportation in the United States had increased 110 per cent over that of 1895 and that the instrumentalities for handling it had increased only 20 per cent. In September 1916 Mr. Howard Elliott said: "Equipment showed a marked decline in 1915 and in that year less mileage was built than in any year since 1864. There have been only three years since 1868 when there was a smaller mileage of railway construction than in 1915." In 1918 nearly twice as much mileage was abandoned as the new mileage built, and the greater part of the new mileage was branch lines and extensions to coal mines. As the private managers cannot or will not provide the facilities needed, the country must either go without or the government must provide them. And in any event if provided they must be operated in connection with the existing lines, because the private interests control practically all terminal facilities, and the railroads to render efficient and economical service must operate as a unit. By their control of the terminal facilities and of the water fronts of the leading seaports the railroad managers have secured a strangle-hold on the nation's commerce which can be broken only by the government.

The selfish disregard of the interests of the public either as a whole or of lesser units in every case where their interests conflict with those of the private managers is a fact so well known that no illustrations are needed. The hostility necessarily created by this condition is everywhere apparent and the only remedy suggested by those who have felt it is that this department of the public service shall no longer be administered by those who have controlled it in the past. At the Farmers' National Reconstruction Conference held in Washington early this year the policy of government ownership and administration of the railroads was unanimously endorsed, and a resolution was adopted demanding legislation eliminating watered stock and stock fraudulently issued, and urging government ownership and operation at once. And this is also the demand of the Farmers' National Council, which represents a membership of about 750,000.

This hostility is equally pronounced among the employes of the railroads. The four great brotherhoods have formally declared in favor of taking the operation of the roads out of the hands of their private managers; and an overwhelming majority of the vast army of nearly two million railroad employes favor the same policy so that they may serve directly under the government where they can receive the protection of its civil service rules and the other benefits accorded those serving in its other departments.

The opposition to government operation and ownership which is most aggressive and efficiently organized is that of the great investment banking interests of New York commonly called the Wall Street financiers. Their interest in the subject is apparent. From the very first the money lending classes have found in the railroads a principal source of their profits. As recently as five years ago Mr. Clark of the Interstate Commerce Commission said: "I know of a large railway corporation that has paid $32,000,000 in commissions to bankers for the sale of its securities." Another source of large profits to these bankers has been from the purchase of these railroads securities and their resale at an advance to foreigners. The amount of these foreign holdings at the time of the breaking out of the war was enormous. To maintain these sources of profits a constant supply of such securities was absolutely essential. If the financial operations of the railroads were performed by the government by the sale of its bonds directly to the people, the Wall Street financiers would lose these sources of income, and to the same extent the people would profit by it.

But the interest of Wall Street financiers is not limited to commissions and profits on the sale of railroad securities. These financiers are not only the bankers of the railroads, they are also their managers. Mr. Prouty of the Interstate Commerce Commission, speaking of the evidence before the Commission in 1903 in its investigation as to the reasonableness of certain rate advance made by the companies from which appeals had been taken to it, said: "In the present investigation into increases in the grain rates from the Missouri River to Chicago, it became apparent that the traffic managers of the railroads had nothing to do with it. On the contrary Wall Street financiers needed the money and ordered the rate to be made."

This was and still is inevitable because the policies of the railroads must be formulated by the directors who are elected to promote the interests of the stockholders. The railroad presidents are merely their servants charged with the duty of carrying out these policies. And for many years the railroad stocks have to a preponderating extent been either owned outright or controlled by Wall Street financiers.

The dominating influence of a few of these men appears from the reports filed with the Interstate Commerce Commission. In 1917, "1.3 per cent of the number of stockholders in the railroads in this country held about one half of the number of shares of stock." "Of the Wabash stock, 46,642 shares were held in Amsterdam, Holland, and 36,321 shares were held by fourteen New York and one Boston company or partnership." "Of the stock of the Chicago, Milwaukee and St. Paul, 216,528 shares were held by eleven New York concerns," etc. An illustration of the composition of the boards of directors of these companies may be found in the fact that in a recent election of the six directors elected for a three year term by the stockholders of a great railroad running west out of Chicago, one was Mr. Depew of the New York Central, one was a principal officer of the National City bank of New York, one was H. C. Frick and a fourth was a brother of the last named. The others were names less well known and have escaped me.

With these facts before us it is interesting to note that at the Reconstruction Convention of the Investment Bankers Association of America which met last December, the convention while unanimously putting itself "squarely on record as opposed to public ownership of railroads or their permanent operation by the government, and emphatically in favor of the return of the railroads to their owners," qualified the demand for such return by adding, "under such regulations as will insure sound credit and adequate service."

But as this recommendation comes from the men who have for years dictated the policies of the railroads, it is well to bear in mind that there has never been a time since the first railroad charter was granted when legislators have not attempted to impose such regulations, with the further purpose of protecting the interests of the public; and that there has been no time since the first charter was granted when every effort and device conceivable has not been resorted to by "the owners" of the railroads to prevent the enactment and enforcement of such regulations. The demand of the investment bankers therefore suggests no new policy, or attitude different from that which the public has maintained and attempted to enforce from the beginning; and there is no reason whatever for assuming that if the railroads were to be returned "to their owners" there would not be the same opposition by the private managers to the enforcement of restraining legislation.

The attitude of the private managers toward attempts at regulation by the public has been too plainly declared to be open to question. About ten years ago Mr. Harriman gave out an interview which was published in the *New York Times*. In it he said: "In all the laws propounded by the states there is the question of Constitutionality. But one thing is obvious, and that is that the railroads have got to fight these measures as they come along." Even more instructive is the statement which was made by Mr. Shouts about the same time in a public address which was printed in pamphlet form and widely circulated and which under the circumstances may be fairly accepted as the attitude of the Wall Street managers. That which called for this address was that prior to 1910 the railroad companies had the right to establish freight rates and put them in force, and the only redress offered shippers was through appeals to the Interstate Commerce Commission. In such appeals the issue was as to whether a particular rate on a particular commodity between specified terminals was reasonable; and upon the shipper was placed the burden of proving the negative of the proposition. As no rate was ever based upon the actual cost of the transportation of a particular commodity between designated terminals, but upon the adequacy of the railroad's income from all sources the evidence was in the hands of the railroads and difficult of access to the shippers. The remedy allowed the shipper was so costly and inadequate as to be in fact a denial of justice. In 1908 the companies were about to put in force a large horizontal increase of rates. The shippers appealed to Congress to grant the Interstate Commerce Commission the power to suspend proposed increases pending an inquiry by it as to their reasonableness. This request met the bitter opposition of the railroad managers. It was while this bill was pending that Mr. Shouts, then president of the Clover Leaf, said:

> We still have hope that we are going to be let alone and allowed to run our own business. . . . . This is a period of governmental control and interference. In this period of business depression the railroads should be preparing for the return of industrial activity. But not a mile of new track is being laid, nor is any equipment being purchased that is not absolutely essential to the present needs of the roads. Improvements involving hundreds of millions have been abandoned because of the vengeful spirit that has temporarily possessed the minds of men whose duty it is to carefully consider proposed legislation.

Notwithstanding the attitude of the railroad managers Congress granted the relief asked by the shipping interests. And the facts that ever since the enactment of this law the railroad interests have fought to secure its repeal, and failing in this have allowed equipment to deteriorate and have discontinued the construction of new lines, sufficiently disclose the attitude of the Wall Street financiers toward governmental regulation and their ability to enforce the policy toward the public indicated by Mr. Shouts. Under these circumstances the demand of the Investment Bankers Association of America for "the return of the railroads to their owners," under regulation to be imposed by the government is not entitled to serious consideration.

Bearing in mind the relation actually sustained toward our railroad transportation system by New York financial interests, the question before us becomes the simple one of whether public interests will be better served if this department of the public service is operated and its policies dictated by a group of Wall Street financiers for the profit of a few or by the government, *not for profit* but, as is done by the Post Office Department, for the benefit of all the people. And in my opinion we are limited in our choice to the one or the other.

But it must always be borne in mind that even government operation—whether by the system now applied to all its other departments or by the so-called "democratization" of the transportation department asked by the railway employes—to be free from the temptation to exploit the people as a whole for the benefit of a particular group or class must exclude all opportunity to do this. If the cost to the people may include a profit to be divided among the members of any groups or class there will inevitably be the temptation to make the cost include such profit, which in the case of the transportation of the necessaries of life adds to the cost of living, which tax falls most heavily on those of every community least able to bear it.

But government operation, however applied, would be unnecessarily costly and unsatisfactory without the ownership of all the instrumentalities, and there would still remain the demoralizing element of selfish interests seeking always to increase their profits. To make this department most efficient and economical and of the greatest benefit to the public, the government should be the sole owner of all the railroads, of their equipment, and of all other property now owned or controlled by the railroad companies.

# The Advantages of National Operation

By Joseph B. Eastman

Member of Interstate Commerce Commission

IN considering possible solutions of the railroad problem, the fundamental purpose to be achieved is clear. As stated by the Interstate Commerce Commission, it is "to secure transportation systems that will be adequate for the nation's need, even in time of national stress or peril, and that will furnish to the public safe, adequate and efficient transportation at the lowest cost consistent with that service." Implied in this definition is the need for credit, so that adequate supplies of capital may be secured at minimum cost; the need for efficient management; the need for the best utilization of facilities, regardless of ownership; the need for relations with labor which will avoid disastrous interruptions of service and ensure whole-hearted, willing work. Having in mind these ultimate ends, I have been brought to the conclusion that they can best be attained if the roads continue in the possession and control of the nation.

## Credit and Capital

One of the impelling reasons for this belief is the matter of credit. It is a vital phase of the problem, upon which much stress has for some time been laid by financiers. Our railroads are never finished, or at least ought not to be, and require a steady inflow of capital. Without it they cannot long furnish good service. The amount required each year runs into very large sums, and half a billion dollars is a conservative estimate, for many have set the figure higher.

With national operation the credit of the United States is squarely behind the roads, and capital can be obtained at low cost, as and where needed and without underwriting syndicates, commissions, or bankers' profits. It has been suggested that the nation's own interest rates would rise if it should continue in this field, but while this might be true in some degree it is impossible to believe that the Government would ever have to pay as much for its money as private enterprise. The total demand for capital would in no way be increased and the elements of speculation and risk which add to interest charges would be removed, so far as railroad investments were concerned.

Under private operation the average cost of capital will be higher and not a few companies will find difficulty in securing capital at all. In the last analysis, the credit of private railroad corporations depends upon ability to issue *common stock.* Most of our roads are already heavily bonded, and unless they can market new stock, none of their securities will long attract investors. Inevitably this means high capital cost and the need for very large earnings. Before the war, carriers asserted that new stock could not be sold without income sufficient to pay at least 6 per cent dividends, with a protective margin of 3 per cent on par value each year for reserve purposes. Under present conditions, with the great demand for capital all over the world and prevailing high interest rates, there is little doubt but that 6 per cent will fall short of making railroad common or even preferred stock an attractive investment. Certain recent issues of railroad bonds bearing this rate of interest have sold below par. Financiers are now claiming that to ensure good credit net income must equal at least 125 per cent of the amount necessary to pay interest and such dividends, *however great,* as may be required to market new stock.

The situation is complicated by the so-called "weak" roads, which, either because of overcapitalization, poor location, mismanagement or improvident investments, are unable to produce necessary earnings on stock at a level of freight and passenger rates entirely adequate for other roads in the same general territory. To maintain credit upon a sound basis and enable the carriers generally to attract capital in accordance with their needs, private operation will, I fear,—unless there are extensive reorganizations—require either a government guaranty or, in the alternative, the raising of rates to an unreasonably high and excessive level.

A government guaranty coupled with private management is unsound in principle and will not meet with public approval. A guaranty of a minimum return is likely to impair rather than improve credit, because of the fear that the minimum in practice will tend to become the maximum. A guaranty of a larger return is still more undesirable. The government can hardly afford to enter upon the policy of using the public treasury to ensure returns in private industries where deficits may arise from errors of judgment, or worse, from men over whose appointment or continuance in office it exercises no control.

I am aware that numerous plans have been suggested for overcoming the difficulty of the weak roads, either by lowering the bars against mergers and encouraging consolidations or by using the surplus of the strong for the benefit of the weak. But none of these plans seems particularly promising or likely in actual operation to cause much public satisfaction. The practical difficulties in the way of bringing about further consolidations on any large scale—in deciding what they are to be, in agreeing upon or fixing the terms, in dealing with state laws, in arranging the necessary exchanges of securities—are very great. If experience is any criterion, the chief beneficiaries for some time to come would be the bankers and lawyers in charge of the negotiations. As for the plans for a compulsory sharing of earnings, direct or indirect, aside from their complexity they could become effective, if at all, only against the opposition of the strong roads and after litigation; and they offer to some at least of the weak roads a hope of gain beyond their just deserts.

Moreover, under any of the plans for private operation which do not involve a government guaranty, credit is dependent wholly upon earnings, and rates must be placed at the level which will produce the required amounts. There is no such compelling necessity under public operation. Broadly speaking it is true that any other course would be unsound policy, but there are exceptions to this general rule and they are well illustrated by the present situation. There never was a time when conservatism in raising rates was more desirable, for we have had ample reason of late to fear the coming of a vicious circle of advancing wages and prices. Increases in freight rates have results more far-reaching than many believe, affecting as they do every item of the raw material as well as the finished product. The roads have recently been operating with earnings which would drive many of them to bankruptcy if they were in private hands; but the Director General has felt, and I think wisely, that the depression in revenue might be the temporary result of the uncertainty following the cessation of hostilities and that the country can better afford, for a time at least, to carry the burden through taxation, as a part of the war cost, than to suffer further advances in rates whose ultimate effects no man can foretell. Backed by the resources of the nation the Director has been able to base his policy upon this belief; but it must be clear that no such policy could be pursued, either now or in any similar situation in the future, if the roads were in private hands.

## BENEFITS OF UNIFICATION

The advantages of national operation are equally clear in the case of the utilization of existing facilities. Any one who will study carefully what the Director General and his aids have been able to do in the way of relieving and avoiding congestion and expediting service, under unfavorable conditions, through the unification of lines, terminals and equipment, must appreciate the possibilities in this direction; possibilities which even yet have only partially been grasped, and which expand as we look forward to the coming electrification of the properties and the development of terminal facilities. With public operation progress in realizing the benefits of unification need only be continued. Under private operation such progress is bound at best to be hampered and delayed by the conflicting interests of rival companies.

## THE QUESTION OF EFFICIENT MANAGEMENT

It is when we come to the question of efficient management, I think, that the most doubt exists in regard to national operation. Among business men there is a widespread feeling that the roads ought not to remain under federal control. This is based upon a belief in the virtue of "private initiative," strengthened by an impression that the roads have not been well managed since they were taken over; upon the fear that federal control will be used for political purposes; and upon a distrust of what are termed "socialistic" enterprises and the desire to avoid an "entering wedge" in this direction.

While no doubt many expressing such views, particularly among bankers, lawyers and railroad executives, are actuated by motives of self-interest, conscious or unconscious, the general sincerity of this body of opinion is not to be questioned or its importance and weight denied. Yet I believe that it is not well founded and that, if followed, the best results for the country will not in the end be secured.

### *"Private Initiative"*

Faith in "private initiative" springs, I think, from experience in competitive industries. Probably it is true that maximum efficiency is a product of the struggle where profits and even the right to live depend, by reason of keen competition, almost wholly upon efficiency. Competition has been a factor in railroad enterprise, but its influence has lessened with the combinations which have been formed and with the public regulation which has been established, and will shrink still more if further extensive mergers are encouraged. It can be argued with much reason that its disadvantages have been as great as its advantages. Moreover, the assumption that private railroad owners have a peculiar self-interest in efficient management and economical operation has slender foundation. Those who use the railroads and pay for the service rendered have a greater interest in these matters. The primary interest of a stockholder is in dividends, and these may be obtained under even very poor management, provided rates are sufficiently high. The tendency of railroad stockholders for some time past has been to think more of rates than of management.

It will also be conceded that the control which is exercised by these stockholders, especially where the stock is widely held, is more often apparent than real. In practice actual control usually falls into the hands of bankers, and experience has shown that efficient management and economical operation are frequently not their most immediate concern. It is only necessary to instance the reports in the comparatively recent investigations of the New Haven, Frisco, Pere Marquette and C. H. & D. railroads to evidence this point, without reaching back into still more unsavory history. Even those most keenly desirous that the roads should have the benefit of "private initiative" are sufficiently apprehensive of the manner in which it might be exercised, so that they wisely urge stringent and costly governmental supervision, not only over rates, but over capitalization, mergers, new construction and service as well. Indeed the chasm between public operation and private operation of the kind now generally proposed is really not so wide as many think.

The choice, therefore, is not between national operation and "private initiative" such as is manifested in highly competitive industries where success is inseparable from efficiency, but between national operation and "private initiative" in a field where competition is much less a factor, if it is to be a factor at all; where prosperity is deemed to be dependent chiefly upon rates; and where it is thought necessary to protect the public interest by duplicate, complicated, costly and continually expanding machinery for public regulation and control.

### *The Success of Federal Control*

So far as the sentiment in favor of a return to private operation springs from a feeling that "federal control" has been a failure, it is not justified. The railroads were taken over in time of war and placed in charge of a Director General. So sudden and radical a change in the administration of an immense industry was never before made in this country. Even if conditions had been normal and favorable, no one could reasonably have expected that the new plan of administration would at once be perfected, or that serious mistakes would not occur. As it happens, conditions were neither normal or favorable. The change came on the eve of the worst winter in railroad history, at a time when great congestion existed in the eastern territory; the properties were in none too good condition, it was necessary to concentrate attention upon the movement of troops and munitions, the supply of skilled labor was depleted both by the draft and by the demands of war industries, and prices were soaring rapidly.

In spite of these handicaps, no one denies, I think, that the Railroad Administration succeeded in relieving congestion and handled both troops and all manner of war freight with great credit to itself. It is also conceded that it was able, through unification, to bring about improvements in operation and terminal practices which were of marked benefit. The more, indeed, its record is studied, the more it will appear that operation both before and after the armistice has on the whole been well conducted, in some respects better than ever before. Nor do I think that any well informed person has charged that fraud or graft has been permitted to enter in. The division directors and federal managers were chosen from men who had made their mark in railroad work, and obviously without regard to political affiliations. Comparatively few actual changes were made in executive positions.

### CRITICISMS OF FEDERAL CONTROL

The chief criticisms of the Railroad Administration, aside from irritation over reductions in passenger service incident to war conditions and a part of the railroad program prior to federal control, appear to be these:

(1) That large increases in rates have been made.

(2) That, notwithstanding these increases, expense of operation has risen to such a height that the roads are not paying their way, but imposing a grievous burden upon the public treasury. It is alleged that much of the increased expense has been due to unjustified increases in wages, and to the employment of more men than necessary.

(3) That radical changes in rate structure and established practices have been made or proposed in an arbitrary way, and that centralization has given rise to bureaucratic methods, to disregard of local interests, and to undue standardization.

#### *Increase in Rates*

While rates have been raised, it is common knowledge that the increases as a rule have fallen short of the contemporaneous increases in the prices of staple commodities. A unit of most commodities will now buy more transportation than ever before. If the roads have not been wholly paying their way it is due, not only to the increase in operating expense, but to the fact that the standard return (upon which the deficit is figured) was based on the average of three very excellent railroad years, and to the further and more important fact that traffic fell off sharply after the signing of the armistice. With returning traffic the showing in recent months has been much better.

#### *Wages and Efficiency of Labor*

Increases in wages have been large; but I do not believe it will be found that they have been disproportionate, on the whole, to the rise in the cost of living or to the increases granted in most competitive industries. Perhaps standardization may have been carried too far in some cases, but it may be questioned whether the situation would have been essentially different if the roads had remained in private hands. The pressure of the cost of living and the rise of wages generally would have made increases on the railroads inevitable. No doubt the process would have been a threatened strike and reference of the matter to the National War Labor Board, or to some special board of arbitration. As it happens, the major increases under federal control followed the unanimous finding of a bi-partisan board of this character.

It is probably true that during the war the efficiency of railroad labor decreased, more particularly in the shops. But it does not follow that this was the result of federal control. Chiefly it was due to the impairment in personnel and discipline caused by shortage of labor—especially of skilled mechanics, who were drawn by the thousands into shipbuilding and other war industries. The decrease in efficiency was noted before the roads were taken over, and I know that it was equally, if not more strongly, marked in the case of street railways which remained under private management.

As to the charge that more men than necessary have been employed, it appears that the introduction of the 8-hour day in some cases caused an increase in the force, that the federal managers are largely the same men who were in charge of operation prior to federal control, and that no orders have been issued from Washington requiring these managers to employ more men than the needs of the service demand.

### *Arbitrary Changes in Rate Structure*

There is more basis for the criticism that important changes in rate structure and practices have been arbitrarily made, and that there has been over-centralization of authority. The incidents which gave rise to this complaint, however, very largely occurred in the inception of the new mode of administration and under stress of war conditions. Under the policy which has prevailed since the signing of the armistice it will hardly be claimed that the Director General has been guilty of arbitrary action. And even if he had been, or if there has been undue centralization of authority, the fault is not one which is incapable of remedy.

I have gone into this phase of the matter at this length because of the prominence which this unfounded impression as to the efficiency of operation under federal control has assumed in the ordinary discussion of the railroad problem. Hasty and superficial conclusions have been drawn without adequate consideration or conception of all the factors which have entered into the situation, and even without apparent thought of comparing the rates and service of the railroads under the pressure of war and post-war conditions with the prices and service of ordinary industrial enterprises during the same period. Summing up the situation, there are grounds for criticism of operation and policy since the beginning of federal control. Most of these were products of the times in which we have been living and could not have been avoided. For some the Railroad Administration may properly be held responsible. But none of them justifies the conclusion that national operation is unsound in principle or that it ought to be abandoned.

To the distrust of "socialistic" experiments little weight need be attached. "Socialistic" is a catchword loosely used as a means of discredit in default of argument or thought. It has long been recognized that transportation by rail is a *public business* which the government might properly carry on, and it is no more "socialistic" to do so than to provide and care for schools, highways, water supply, postal facilities, irrigation, fire protection, and any number of other activities now publicly administered. The question is one of practical expediency rather than of political theory, and the fear that national operation of this public business will prove an "entering wedge" for the nationalization of what is more strictly *private* industry is not warranted.

## THE GOVERNMENT AS A BUSINESS ENTERPRISER

Nor need we hesitate to adopt the policy of national operation because of the fear, so frequently expressed, that the government is unsuited to carry on a business enterprise. It may be granted that as a nation we have often been guilty of wasteful, dilatory and unbusinesslike practices in the conduct of our public affairs, although I have little doubt that a critical examination of our record in irrigation, the forestry service, the geological survey, the construction of the Panama Canal, and the activities of the Agricultural and other departments, would disclose many instances to the contrary. But such an admission of shortcomings is far from saying that the problem of securing efficient administration of public business is beyond the capacity of American ingenuity, determination and public spirit. It might as well be argued that the obvious mismanagement of many railroad corporations in the past is proof that "private initiative" cannot produce good management. The truth is that very little attention has been given to the solution of this problem.

After some experience in both state and federal employ, I am confident that no greater opportunity for useful, genuinely creative and hence enjoyable work anywhere exists than in the public service, and that the great body of employes are faithful, loyal and willing to work. I feel sure, also, that American voters have no desire to see graft, waste or "politics" enter into railroad management, and that any national administration guilty of fathering such management would be equally guilty of the most short-sighted political judgment. Nor is it possible to believe that able men would be less willing to accept railroad positions of power and eminence where their work would be primarily for the general welfare rather than for private gain. There is no sound reason to believe that the problem of efficiency is hopeless, or one that cannot be solved if constructive thought is devoted to it in sufficient measure. A little later I shall offer certain suggestions in this connection.

## PARTICIPATION OF RAILWAY LABOR

At present the labor question is a most important phase of the railroad problem. Industrial warfare upon the railroads spells ruin. It is more than a question of strikes. Every one knows that the country cannot long endure a stoppage in its transportation arteries, but not every one realizes how closely the furnishing of good service at reasonable rates is bound up with loyal coöperation between the men and the management. It is but one aspect of the question which is agitating the whole world at the present time, how to secure whole-hearted, willing work and increase production.

Labor is fast coming to realize that increases in wages may not of themselves achieve desired results. Events in this country in recent months are significant of that fact. Indeed there are probably only two ways in which workingmen can permanently better their condition. One is to reduce excessive profits and place the burden of taxation where it can most easily be borne; the other, and the more important in its direct results, is to increase per capita production and thus lower the cost of production and bring down prices.

One of the great obstacles to achieving this most desirable end has been the suspicion of labor that any added zeal in work would merely redound to the benefit of private capital. Another has been the fact that the laborer has too often been regarded as a mere tool of production rather than as a human partner in the enterprise, and has lacked personal interest in his work. No doubt this situation, so far as it exists upon the railroads, may be improved by changes in methods under private ownership; but it may more readily be remedied under national operation.

With national operation the return of capital will be fixed or limited, and there will no longer be foundation for the fear that heightened effort will but add to the direct or indirect profits of private owners. Moreover, with all the roads under a single governmental control, the policy of giving labor a voice and personal interest in the conduct of the business can more easily be adopted and carried into uniform and successful practice.

The very fact that the railroad employes themselves favor the nationalization of the roads will simplify the task. I realize that there are many who fear that this will result in a formidable political alliance between the employes and the government; but let those who hold this fear recognize the fact that even under private ownership the government is bound to be the ultimate, deciding factor in any critical labor controversy. It has been so in the past and it will be so in the future, for the concern of the entire country in any such controversy is too great to be ignored. The government can, I believe, deal with the problem with a surer and firmer hand if it deals directly than if it deals indirectly; and the saving factor in the situation is the truth that the real interests of the employes are identical with the interests of the country.

## SUGGESTIONS FOR PERFECTING GOVERNMENT OPERATION

As to the form which national operation ought to take, it is generally agreed that private operation has had many defects in the past and much thought is being spent upon possible means of curing these defects. The mistake lies in assuming that flaws in private operation are less vital and easier of remedy than flaws in public operation. Most of the plans for a return to private operation are highly complex and involve so large an element of public control that exercise of "private initiative" will at best be circumscribed, the ultimate responsibility for good service and reasonable rates will rest with the government, and much energy will be lost in costly processes of regulation, duplicating, in many respects, the processes of management. There are so many patent elements of strength, simplicity and power in national operation, at a time when these advantages are sorely needed, that the thought of the country may well be directed to the perfecting of federal control, rather than to its abolition. In this connection I venture to make the following general suggestions:

(1) Too much power has been granted, particularly over rates. This has resulted at times in arbitrary action which has led to the fear that such action may be more frequent in the future. The present rate structure is far from perfect; but our industries have been built upon it and it ought not to be too suddenly or too violently disturbed. No important change should be made without opportunity for full hearing before some disinterested tribunal. The Interstate Commerce Commission has been dealing with rates for years and is well organized for the purpose. It should have the same power over rates under national as it has had under private operation.

The Commission should, I think, also retain its control over accounts and its powers of research and investigation. The state commissions should be permitted to retain similar powers and to exercise much of the authority over service which they now possess. These local tribunals, easily accessible and independent of the federal government, can be of great public benefit. The more opportunity there is for intelligent and informed criticism from independent sources, the better national operation will be.

(2) There has been over-centralization of authority. The roads nationally operated should, I think, be divided into regional or other systems, and these should have a large measure of autonomy or "home rule," so that all minor policies and some of greater moment can be determined on the spot. By instituting comparisons between these systems, rivalry can be stimulated and benefit derived.

(3) While the federal government should retain ultimate control, the suggestions which have been made that independent interests be given direct representation in the management are well worthy of consideration. Such representation would no doubt offer a valuable check against the political and business evils of public operation which so many fear. In this connection, the business men who use the roads have an obvious self-interest which, as I have indicated, is less divided than that of private stockholders. The reasons for giving the employes representation in the management have already been stated, but that representation should not, as is now being urged, be either superior or even equal to that of the government in behalf of the entire public.

These are only general suggestions and I have not attempted to develop them in any detail. The problem is largely one of organization and the important thing at the moment, if Congress could see it in that light, is to turn attention in this direction. If this were done, without doubt the Director General and his aids, representatives of shippers and employes, and many others could give valuable help in devising ways and means for improving the organization and supervision of national operation so that it may better accomplish the purposes which all desire. It is a question which could be dealt with without haste, and the same may be said of the still more difficult question as to the compensation finally to be paid to the owners of the roads if the policy of national operation should be permanently adopted. Probably this latter question could more wisely be determined in the light of the valuation which is now in process, but the suggestion is well worthy of consideration that a trade might be made, giving to present railroad security holders government bonds yielding a return equivalent—government credit being considered—to the return received in the past under normal conditions. In the meantime all that is needed is to continue federal control in its present form for an appropriate period of time, so that uncertainty as to the immediate future may be ended and sufficient time gained for the deliberate and constructive consideration of the form which national operation should finally take.

Summing up the situation, having in mind the conditions by which the country is now faced, it is my firm conviction that it is unwise to return the railroads to the uncertainties of private financing, and the confusion bound to ensue upon the inauguration of new schemes of public regulation, the raising of rates, and attempts at mergers and the pooling of interests, not to speak of labor complications. The nation will better conserve its strength and resources if federal control is continued and if all who are interested in efficient and economical operation will unite their energies to achieve that end under such control. If supported without prejudice, rancor or partisanship, this policy can be made to promote national pride and unity and add to the power of the country.

# Proposed Plans for Railroad Legislation

By Richard Waterman

Secretary of the Railroad Committee of the Chamber of Commerce of the United States

THE President has announced that he will return the railroads to their owners at the end of the present calendar year and has asked Congress to enact the necessary legislation before that time. Congress is making an earnest effort to comply with this request. The Senate and House Committees on Interstate Commerce have held railroad hearings lasting for many months and now have before them more than thirty different plans for railroad legislation that have been proposed by members of Congress, by the Interstate Commerce Commission and the state commissioners, by railroad presidents and railroad employes, by shippers and stockholders, bankers and business men, national organizations and individuals prominently identified with railroad matters.

## Plans Proposed

Out of these thirty different plans seven may, perhaps, be regarded as typical:

*The Senate Committee plan* proposed in the Cummins bill, S. 2906, presenting the recommendations of the Special Subcommittee appointed by the Senate Committee on Interstate Commerce.

*The Commerce Commission plan* proposed in the Esch-Pomerene bill, H. R. 4378, presenting the views endorsed by nearly all of the members of the Interstate Commerce Commission.

*The Railway Executives' plan* proposed in the tentative draft of a bill laid before the House Committee on Interstate and Foreign Commerce by T. D. Cuyler, President of the Association of Railway Executives.

*The Transportation Conference plan* proposed in the Frelinghuysen bill, S. 2998, presenting the program of railroad legislation adopted by the National Transportation Conference held under the auspices of the Chamber of Commerce of the United States.

*The Warfield plan* proposed in the tentative draft of a bill laid before the House Committee on Interstate and Foreign Commerce by S. Davies Warfield, President of the National Association of Owners of Railroad Securities.

*The Amster plan* proposed in the Lenroot bill, S. 2889, presenting the plan supported by the Citizens' National Railroads League.

*The Plumb plan* outlined in the Sims bill, H. R. 8157, presenting the plan proposed by Glenn E. Plumb, General Counsel of the Railroad Brotherhoods.

## DISCUSSION OF PLANS

*Ownership and Operation.* Six of these plans favor the return of the railroads to their owners as soon as the necessary legislation can be enacted; and also favor corporate ownership and operation as a permanent railroad policy. The seventh—the Plumb plan—proposes that all of the railroads in the country shall be owned by the United States Government and shall be leased for a hundred years to an operating corporation composed in the main of the railroad executives and employes.

*Consolidation and Competition.* Five of the plans provide for either permissive or compulsory consolidation of existing railroad companies into strong competitive systems whenever the federal authorities may declare such consolidations to be in the public interest. The Amster and the Plumb plans provide for the complete consolidation of all railroads into a single national system thus putting an end to all competition.

*Federal Incorporation.* Five of the plans provide for either permissive or compulsory incorporation of all interstate carriers; while two—the Warfield and the Commerce Commission plans—oppose federal incorporation on the ground that it is a complicated, unnecessary and probably unconstitutional method of asserting the right of the Federal Government to regulate interstate commerce.

The Transportation Conference plan provides that all existing interstate railroads and all new consolidated companies shall be required to incorporate under a federal charter; and that each railroad company shall be managed by twelve directors of whom eight shall be elected to represent the stockholders, two to represent the employes and two to represent the principal interests in the territory served by the system. The Amster plan provides for a board of eleven directors, including, one representing the Interstate Commerce Commission, one the state commissioners, two the employes, two commerce and industry, two the farmers, and three the stockholders. The Senate Committee plan calls for a board of directors including two representatives of classified employes and two representatives of the government.

*Security Issues and Capital Expenditures.* The plans all provide for exclusive Federal regulation of the issuance of railroad securities; and also for Federal regulation of the expenditure of the proceeds. The Senate Committee, Commerce Commission, Warfield and Amster plans assign this duty to the Interstate Commerce Commission; the Transportation Conference and the Railway Executives' plans entrust it to the Federal Transportation Board, and the Plumb plan provides that all railroad securities shall be retired and replaced by government bonds, and that all capital expenditures for railroad purposes shall be made by either the national or the local governmental authorities.

*Regulation of Rates.* Each of the seven plans provides for the regulation of rates affecting interstate commerce by the Interstate Commerce Commission; and five of them define statutory rules of rate-making intended to guide the Commission in fixing rates that shall be not only reasonable and non-discriminatory, but also adequate. The rules proposed by the several plans are as follows:

1. *Senate Committee Plan.*—The Commission shall divide the country into rate districts and the carriers into rate groups for rate making purposes. . . . . In making rates for each rate group the Commission shall take into consideration the interest of the public, the shippers, the wages of labor, the cost of maintenance and operation (including taxes), a fair return upon the value of the property used for transportation service, and the requirements for additional capital in order to enable the carriers to adequately perform their duties to the public.

2. *Railway Executives' Plan.*—The level of rates shall provide revenue sufficient to pay wages and other expenses of operation and a fair return on the value of the property used in the public service, and to establish and maintain a credit sufficient to attract the new capital necessary to meet the public need for transportation facilities. The Federal Transportation Board is also required to certify to the Interstate Commerce Commission the amount of operating revenues needed by the carriers to enable them to perform their functions.

3. *Transportation Conference Plan.*—The Commission shall determine . . . . such number of traffic sections as it may deem desirable for rate making purposes. . . . . The rate schedules shall be designed to produce a net aggregate annual railway operating income in each traffic section after provision has been made for renewals and depreciation, equal to not less than 6 per cent per annum upon the fair value of all the property in each traffic section devoted to the public use by all state and national railroad companies therein.

4. *Warfield Plan.*—The Commission shall divide continental United States into rate making districts . . . . and shall, as nearly as may be, establish and maintain, freight and passenger rates or levels of rates or charges in each rate making district that will enable the carriers as a whole allocated to each district to earn, after proper allowance has been made for renewals and depreciation, an aggregate annual net railway operating income equal to not less than 6 per cent upon their combined property investment accounts.

5. *Amster Plan.*—The corporation may from time to time initiate such schedules of rates as will be at least adequate to produce revenues sufficient to pay all proper operating expenses, taxes, rentals, depreciation, and maintenance charges, interest on bonds and other fixed charges, and all other proper expenses and charges, and to pay maximum dividends on all outstanding stock and stock receipts, and, in addition, to produce, in so far as the commission may deem necessary and proper, a sum not exceeding 2 per cent of the par value of all outstanding stock; and the Commission shall approve schedules of rates so initiated, which will, in its judgment, produce such revenues.

The Commerce Commission plan does not propose a definite rule of rate making, but suggests that the period of suspension of rates be shortened, and that the Interstate Commerce Commission be authorized to determine the division of rates between carriers, to consider the cost of service principle in fixing rates, and to exercise other broad functions affecting the general rate structure.

The Plumb plan provides that the Interstate Commerce Commission shall regulate all rates; and that if the rates fixed by the Commission do not produce a revenue sufficient to pay expenses, the United States Government shall pay the deficit out of the United States Treasury, and if they produce a surplus it shall be divided equally between the employes and the government.

*Adequate Revenues.* Analysis of the proposed rules of rate making shows that five of the proposed plans recognize the fact that if the roads are to remain solvent they must be allowed to earn revenues sufficient to enable them to pay all necessary expenses and a fair return on the capital already invested, and in addition to attract new capital in amounts sufficient to provide for all necessary improvements and extensions of facilities and service. Various methods of accomplishing this purpose are proposed. *The Amster plan* provides for a direct government guarantee of a four per cent dividend on all stock issued by the corporation, and permits the payment of a six per cent dividend if earned. *The Transportation Conference plan* provides for a net return of six per cent on the aggregate fair value of the roads in each traffic section of the country; *the Warfield plan* for a return of six per cent on the aggregate property investment account in each of the three classification territories; and *the Senate Committee and Railway Executives' plans* for a fair return on the value of the property. *The Commerce Commission plan* places on the Commission no responsibility for providing adequate revenues for the railroads of the country as a whole; and *the Plumb plan* leaves the government free to either fix rates high enough to pay all expenses, or else supplement the revenue from rates and fares by an appropriation from funds raised by general taxation.

*Excess Earnings.* Several of the plans make definite provisions for limiting the amount of the earnings that any individual road shall be allowed to retain. Under uniform rates one road may earn a very high percentage return on its property investment, and another may be unable to pay dividends of more than one or two per cent. Nearly all of the plans make a definite effort to solve this problem of the strong and the weak roads. *The Transportation Conference plan* defines excess earnings in terms that are entirely fair to all of the roads, large and small earners alike; and provides that excess earnings shall be used for the creation of two contingent funds—an individual contingent fund created by each road to support its own credit, and a general contingent fund maintained by contributions from all prosperous roads to support the credit of the railroads of the country as a whole. This plan does not propose, as some have feared, to take from the rich and give to the poor, but rather to use railroad revenues as a whole in such a way as to help each road to help itself. *The Warfield plan* provides for the distribution of the excess earnings of each road, one third to the road and two thirds to be divided equally between labor and the public; and the Amster plan distributes all earnings in excess of six per cent—

forty per cent to labor, thirty per cent to the public for improvements, and retiring outstanding stock, and thirty per cent to the stock holders.

*Wages and Working Conditions.* Five of the seven plans provide for the creation of temporary or permanent boards for the adjustment of wages, hours of labor and other conditions of service of railroad employes; and two of them,—the Commerce Commission and the Railway Executives' plans—make no declaration in regard to the regulation of labor. *The Transportation Conference plan* provides for the adjustment of wages and other conditions of service of employes by boards consisting of equal numbers of representatives of employes and officers of the railroads with appeal in case of a deadlock to the Federal Transportation Board as referee. *The Senate Committee plan* provides for the creation of a Committee of Wages and Working Conditions composed of four employes and four representatives of the companies to settle all disputes between the roads and their employes, with appeal to the Railway Transportation Board in case of a deadlock; and also provides that the decisions of the Board, i.e., of the government, shall be final and that railroad strikes and lockouts shall be prohibited under penalty of fine or imprisonment or both. *The Warfield plan* authorizes the six Regional Commissions to act as boards of conciliation or arbitration in all controversies between carriers and employes in their respective regions, with appeal in case of a deadlock to the Interstate Commerce Commission. *The Amster plan* provides for the appointment from time to time of an advisory board composed of equal numbers of representatives of the employes and of the national railway corporation to investigate demands relating to wages, hours of labor or working conditions; and requires the boards to publish their findings and recommendations, which however shall not be binding on either party to the controversy. *The Plumb plan* provides for the determination of wages by the Board of Directors of the National Railways Operating Corporation; and for the adjustment of disputes between the officials and the men by boards to which the operating officials shall elect five members and the men five members, with appeal to the directors in case the board fails to reach an adjustment.

*Federal Agencies of Regulation.* The seven plans all provide for the maintenance of the Interstate Commerce Commission as the sole federal agency for the regulation of interstate rates. In six of the plans the powers of the Commission are enlarged; but in the seventh—the Railway Executives' plan—and in the Senate Committee plan, certain administrative and executive functions now exercised by the Commission are transferred to the new Federal Transportation Board, the Commission, however, retaining its present powers of rate regulation and its valuation and accounting functions. One of the plans—the Warfield—creates six Regional Commissions to exercise concurrent jurisdiction with the Interstate Commerce Commission, and thus relieves the Commission, as far as possible, of a large amount of work that properly belongs to the Federal body, but can be delegated to the several Regional Commissions. Six of the plans also provide for the creation of a new federal agency of regulation to supplement the quasi-judicial work of the Interstate Commerce Commission by performing many important executive and administrative functions, of which some are transferred from the present list of duties of the Interstate Commerce Commission, but nearly all are new functions assumed by the federal government for the first time under the present legislation.

*The Conference plan* creates a Federal Transportation Board composed of five members appointed by the President whose general duty it shall be to promote the development of a national system of rail, water and highway transportation, to inquire into and propose measures for preventing abuses therein, to regulate capital expenditures and security issues, to determine the grouping or consolidation of railroads deemed to be in the public interest, and to carry out plans authorized by Congress for merging all roads engaged in interstate commerce into strong competing systems severally owned and operated by companies subject as corporations to the jurisdiction of the United States.

*The Senate Committee plan* creates a Railway Transportation Board with five members appointed by the President: to prepare and adopt a plan for the consolidation of the railway properties of the United States into not less than twenty, nor more than thirty-five systems; to make inquiry respecting the adequacy and efficiency of the transportation facilities and service of the whole country, and when and how they should be enlarged or improved; to inquire into the state of credit of all common carriers subject to the Act to Regulate Commerce, and as to the new capital which the public interest may require the carriers to secure in order that adequate and efficient service and facilities may at all times be provided; and to exercise many of the functions and powers heretofore conferred upon the Interstate Commerce Commission, notably the administration of the Car Service Act, the Safety Appliance Acts, the Hours of Service Act, the Locomotive Inspection Act, and others of the same general character.

*The Railway Executives' plan* provides for a Federal Transportation Board composed of three commissioners appointed by the President and charged with the general oversight from the point of view of the public interest, of all transportation; and suggests that this board should be coordinate with the Interstate Commerce Commission and should relieve it of all its functions except rate regulation, valuation and accounting.

*The Warfield plan* provides for the creation of the National Railways Association operated without profit to the railroads and managed by the nine Interstate Commerce Commissioners and eight representatives of the railroads, to furnish an immediate means for assisting and financing the return of the roads to private operation; to be continued as a permanent means for mobilizing and purchasing equipment to be leased to the railroads; to provide a management or agency that will continue or put into effect the joint use of terminals, unification of facilities, re-routing of freight by pooling or otherwise, and such other methods of operation as have been found to be successful and expedient during Federal control; and to furnish a standing, trained and efficient means for immediate mobilization of the railroads for war purposes without additional legislation.

*The Amster plan* provides for the creation of an Efficiency and Economy Board of five members appointed by the President, four from a list submitted by the National engineering societies and one nominated by the employes, to study facilities and service and to devise and recommend improvements in physical equipment and in operating methods.

*The Plumb plan* provides for the creation of the Railway Board of Appraisement and Extension composed of the nine Interstate Commerce Commissioners and three other members selected by the members of the corporation to determine the amount of compensation to be paid by the government to the present owners of the roads and the amount to be paid for new extensions and improvements.

## TRANSPORTATION CONFERENCE PLAN

The most carefully worked out plan for railroad legislation that has been laid before the Committees of Congress during the hearings is that prepared by the National Transportation Conference held under the auspices of the Chamber of Commerce of the United States. This Conference included in its membership prominent men belonging to every important interest affected by transportation—commercial, industrial, agricultural, financial, labor, governmental, economic, civic and social. The fundamental features of this plan have been approved by a referendum vote of the business men of the country. Certain additional features which are grouped separately in the following summary are in harmony with the fundamental features, but have not yet been submitted to a referendum vote.

The Transportation Conference recommends:

1. Corporate ownership and operation of railroads.
2. Return of the roads to their owners as soon as the necessary legislation can be enacted.
3. Consolidation of existing roads in strong, competing systems.
4. Compulsory federal incorporation.
5. Federal regulation of capital expenditures and security issues.
6. Federal regulation of intrastate rates affecting interstate commerce.
7. Adoption of a statutory rule of rate making that will assure to the railroads revenue sufficient to enable them to furnish the public with adequate facilities and efficient and economical service.
8. Creation of a Federal Transportation Board to promote the development of a national system of rail, water and highway transportation.

The additional features recommended by the Conference but not yet submitted to a referendum vote, include:

9. Creation of a company contingent fund for each railroad

and a general contingent fund for all railroads, to be used in strengthening and stabilizing railroad credit.

10. Creation of a railroad reserve fund for use during the period of transition from government to corporate management.

11. Creation of boards consisting of equal numbers of representatives of employes and officers of the railroads for the adjustment of wages, hours of labor and other conditions of service of railroad employes.

12. Organization of the board of directors of each consolidated railroad company with twelve members two of whom shall be representatives of the employes of the system, and two shall be selected by the Federal Transportation Board to represent the principal interests involved in the territory served by the system.

Of the recommendations of the Transportation Conference listed above, nearly all have already been incorporated in one form or another in the Cummins bill.

### SENATE COMMITTEE PLAN

The most definite and comprehensive plan for railroad legislation that is now before the Committees of Congress is that drafted by the Senate Sub-committee on Interstate Commerce and incorporated in the Cummins bill. The regulatory features of this bill have been summarized by Alfred P. Thom, General Counsel of the Association of Railway Executives, as follows:

> It controls the charges of the carriers, except those it leaves to the states to control:
>
> It determines the wages the carriers shall pay to labor:
>
> It provides for consolidations—at first voluntary, but after seven years compulsory—according to plans determined by he government:
>
> If the carriers consolidate voluntarily, it forces a readjustment of their capitalization, to values fixed by government agencies, although this capitalization has been adopted with the tacit concurrence of Congress, under the authority of state laws, and is outstanding in the hands of innocent purchasers for value:
>
> If there has been no complete consolidation at the end of seven years, the owners of these properties must submit to having them valued and taken away:
>
> It empowers the Government Board to distribute traffic which it considers congested, and to divert traffic, not routed by a shipper, from a carrier to which an originating or intermediate carrier may, for business reasons and with business advantage, desire to deliver it:

It throws the terminals, freight and passenger, and other facilities, of one carrier open to the use of another, or other carriers, at the Government's discretion:

It places upon the managing boards of all carriers representatives of labor and of the public:

It makes a Government Board the financial manager of the railroads, conferring upon this Government agency power to determine what capital expenditures and what financing is compatible with the public interest:

It prevents any extension of line or new construction unless specifically authorized by Government authority:

It confers upon a Government Board power to take the locomotives and cars of one company (without reference to that company's views of its own needs) and assign them for use on another road:

It confers upon a Government Board power to require the purchase or construction by a carrier of equipment and other facilities, not according to its own judgment, but in the discretion of the Board:

It confers power on a Government agency to require construction by the carriers of docks and the extension of rail lines to them without limit of distance:

It establishes a rigid long-and-short-haul clause, thus depriving the carriers of the economic advantage of competing for traffic which may move either by rail or water, or by shorter rail lines:

While it controls interstate rates, it does not control, except in some cases by the circuitous and unsatisfactory method of appeal, rates on state traffic, thus withholding a homogeneous system of regulation, and leaving the carrier subject to many conflicting policies and impossible rate situations:

The above outline of the proposed system of regulation (says the Counsel of the railway executives) is not intended as a criticism of, or an objection to, the assertion of some of the powers mentioned, for some of them are entirely justified; but the statement is made for the purpose of indicating the extent to which it is proposed to extend the power of regulation, and to call attention to how little is left to the carriers in the way of initiative, enterprise, real management, or control of financial results.

## PRESENT STATUS OF RAILROAD LEGISLATION

The present status of railroad legislation (October, 1919) is as follows:

The Cummins bill drafted by a sub-committee consisting of Senators Cummins of Iowa, Kellogg of Minnesota, Pomerene of Ohio, Poindexter of Washington and Robinson of Arkansas, is now under consideration by the full Senate Committee on Interstate Commerce, and before this article is published in the *Annals* the Committee will probably have completed its labors and reported the bill to the Senate. The hearings on the Esch-Pomerene bill before the House Committee on Interstate and Foreign Commerce have been completed, and a sub-committee consisting of Representatives Esch of Wisconsin, Sims of Tennessee, Hamilton of Michigan, Winslow of Massachusetts, and Barkley of Kentucky, has been appointed to draft a committee bill that will be substituted for the Esch-Pomerene bill and will probably be reported to the House before November first. These two bills will probably be debated—briefly in the House and at considerable length in the Senate—and will then be passed and sent to conference. They will undoubtedly differ in many important points. As soon as the conference committee reaches an agreement the compromise bill will be reported back to the House and the Senate for passage. When it is finally enacted it will go to the President for his approval, and when he signs it the government will, for the first time, be in a position to return the roads to their owners without courting financial disaster. Without doubt, however, the roads will be handed back to their owners and the country will return to the policy of corporate ownership and operation.

# Our Railroad Problem[1]

## How to Settle it Effectually in the Public Interest

By Samuel Rea

President, The Pennsylvania Railroad Company

FIVE months ago, in addressing the United States Chamber of Commerce, in the City of St. Louis, I suggested a solution of the railroad problem. Since then the Senate and House Committees have had hearings and the benefit of about fifty or more plans on this subject. As a result I now hope we can soon close our talking season, by Congress adopting constructive railroad legislation that will re-create railroad credit. Today railroad credit is based not solely on railroad earnings but directly on the Treasury of the United States, which is bad for the nation's finances and business, and a burden which increases its taxation.

### Railway Executives' Plan

To assist in the problem of restoring railroad credit the essence of the plan presented by the Association of Railway Executives, representing stock and other security holders and managers of roads earning about 93 per cent of the operating revenues of the country, was:—

1. Terminate Federal control as soon as necessary legislation is enacted. The Interstate Commerce Commission to immediately adjust rates to restore the roads to a self-sustaining basis. Pending such adjustment the Federal Government to continue the compensation to carriers under the Federal Control Act.

2. Fund indebtedness to the Government arising out of transactions during Federal Control.

3. Exclusive Federal regulation of all rates, in order to terminate state controversies and confusing regulation, and enable the Interstate Commerce Commission and the suggested Transportation Board to squarely meet the entire responsibility of adequate revenues required to sustain railroad credit. The Executives did not recommend the abolition of state commissions. They felt

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[1] Address delivered before the Savings Bank Section of the American Bankers' Association, St. Louis, Mo., October 1st, 1919.

that the state commissions would still have a very large and extensive field to cover in the regulation of purely local and intrastate utilities, such as gas, power and water companies, urban and interurban transit lines, etc. In addition they might be made of great help in the constitution and the workings of the regional commissions also recommended.

4. Establishment of a Department or Board of Transportation to look after the transportation needs and facilities of the country in general, so that new capital might be attracted for future additions and betterments and new equipment. The Board to make recommendations to the Interstate Commerce Commission as to rate increases and adjustments and as to the condition of railroad credit. The administrative functions of the Interstate Commerce Commission to be transferred to the Transportation Board.

5. The Interstate Commerce Commission to be charged with the determination of reasonable and adequate railroad rates, as well as railroad valuation and accounting. Regional Commissions to be appointed on which every State would be represented, thereby avoiding the inconvenience and expense of concentrating practically all transportation questions at Washington. The Interstate Commerce Commission to have power to fix minimum as well as maximum rates. The suspension power for final rate approval to be reduced from ten months to about 60 days. The pooling of cars and traffic and the joint use of facilities to be authorized subject to governmental approval.

6. A wage board to be established for the prevention or adjustment of labor controversies, on which the public should be represented.

7. Exclusive Federal supervision of the issue of railroad securities and of all capital expenditures.

8. Broad powers of consolidation and merger of carriers to be conferred in order to eliminate unnecessary corporations. That Federal incorporation of State carriers be permitted if essential for the foregoing purposes.

9. Adequate rates to be made mandatory in order to sustain railroad credit and attract sufficient new capital. A statutory rule to be enacted by Congress requiring that railroad revenues shall be sufficient to pay operating expenses, including wages and

taxes, and give a proper return on the value of property used for railroad purposes, and be sufficient to attract new capital to improve and expand the transportation service.

Judging by conditions—past, present and looking to the future—we believed the foregoing requirements to be essential for any rational plan of strengthening railroad credit.

### DANGERS OF FIXING MAXIMUM RETURNS

As a result of close contact with the railroad problem here and abroad and with the results of past experience of the National and State Governments with public works and railroads before us, we felt that government ownership or a government guarantee was not desirable for the railroads of the country. In its last analysis a government guarantee means government operation, as, if the government is to supply the funds, it must have a controlling force in expenditures for railroad operations. The situation today is practically that of a government guarantee. Similarly, although we realized our plan was not perfect, we avoided fixing a maximum return to all the railroads on their property investment, and a division of profits by individual companies if they exceeded that maximum, believing that any attempt to confiscate surplus earnings of any individual company would surely eliminate initiative, restrict competition and injure credit. Interest rates are exceedingly high compared to the pre-war period, and with the capital necessities of the world far from satisfied, any suggested maximum like 6 per cent would be too low for a period when the credit of the government itself, if left free from bank and treasury support, is nearly 5 per cent. The railroads have to raise about a billion dollars annually of new capital for improvements and equipment, as well as provide for maturing notes and securities, and may find 6 per cent insufficient for several years. Further, the danger of maximum earnings may be illustrated by the experience of many of the street railways of the country and their franchises, where the five-cent maximum fare was regarded as providing a sufficient margin of profit to meet all conditions, but, when confronted with world-wide war conditions, the five-cent fare proved totally inadequate compared to costs and taxes, so that public utility companies are as bad a problem for the country to adjust as the railroads.

Many of us remember leases in which 60 per cent or 70 per cent of gross was considered an ample compensation to a lessee to operate a road but the lessees in most cases were later compelled to buy up the stocks of such roads and cancel the leases, because 60 per cent or 70 per cent of gross proved insufficient to pay operating expenses, while the rent of 40 per cent or 30 per cent of the gross paid to the lessor, as earnings increased, became a bonanza.

From a long experience I distrust arbitrary maximum returns unless all other factors such as income, taxes, interest, etc., are likewise fixed, because we cannot foresee or control future business and financial conditions. I have more sympathy with specifying a minimum return as a guide to our commissions of what is an unreasonably low transportation rate and an unfair return on the investment, instead of relying on the courts to save the common carriers from confiscation. I would consider a return of 6 per cent on the property investment a minimum return, especially now when money will cost the railroads even higher figures. Judging by past experience there did not seem to be the requisite authority or initiative in the commissions—federal and state—to make rates that would produce a return of even 6 per cent for a traffic district, or rate making group of railroads, except in years when the roads showed an unexpected expansion of business and when costs continued somewhat stationary, as in parts of the calendar years 1909 and 1916. I have been informed that a minimum would not be specified by Congress, unless it be an absurdly low return like 4 per cent, upon which even the government itself has not been able to borrow the moneys it required, and which would be absolutely too low to form a credit basis for the railroads. Well, neither a maximum nor a minimum is required, if Congress will take the responsibility of directing the Federal Commissions to enable the railroads to resume business on a self-sustaining credit basis, and attract the nesessary additional capital for improvements to properly serve the public. The railroads cannot serve the public if they continue on the "bread line." They are a menace to prosperity, while if prosperous they pay high taxes, improve and expand their facilities, give employment and make the industries prosperous. In good years they should be allowed to earn well above any minimum, so that in lean years the public will not be asked to pay increased rates to offset large deficits.

## CUMMINS' BILL

Now in response to all the testimony on the railroad question, and the various plans suggested, and the serious condition of railroad credit, a tentative Bill, Senate 2906, has been introduced by Senator Cummins to solve our problem. It is the first broad friendly legislative expression towards railroads in probably the last fifteen or more years. Therefore, I propose to briefly and, I trust, constructively, review some of its salient features that may interest Savings Banks' Executives, with the expectation that Senator Cummins will not consider the railroads and their owners ungrateful for the work he and his Committee have tried to do for the country, but with the sincere hope that he and his associates will endeavor to correct some features of the Bill, affecting the financial and investment aspect of the situation.

### *Beneficial Features—Cummins' Bill*

Omitting criticisms of phraseology and detail, I consider some of the benefits sought to be promoted by the proposed measure are:

1. Return of the railroads to private ownership.
2. Funding of indebtedness of the roads to the government for capital expenditures made during Federal control—but certainly it ought to be for not less than ten years rather than five years, considering financial conditions generally, and the annual requirements for capital by the railroads, while, for general indebtedness, some security other than demand notes should be provided, otherwise credit will be imperiled rather than helped by such funding. This is equitable because the government assumed control, and should leave the railroads in at least as sound physical and financial condition as when they were taken over, and capable of carrying on the transportation business of the country. In the war period while the merchants, the industries, the farmers and others were protected by higher prices, and were given a basis on which to make profits consistent with the higher living costs, the railroads under government control were not placed in that position. Consequently, they should not be asked to pay the

large capital expenditures of the war period without assistance from the government to fund them for a long period and at low interest rates. These capital expenditures were made to assist in protecting the life of the Nation, and the roads should also have transportation rates sufficient to hereafter sustain them.

3. Exclusive Federal regulation of securities.
4. Reduction of rate suspension period from ten months to five months.
5. Creation of a Transportation Board charged with oversight of railroad physical conditions and administrative questions and general credit.
6. A more detailed definition of what elements shall be considered in deciding a reasonable rate.
7. Prevention of strikes that would interrupt interstate commerce.
8. Pooling of earnings and traffic.
9. Clothing the Interstate Commerce Commission with power to prescribe minimum as well as maximum rates.

### *Objectionable Features—Cummins' Bill*

Some of the objectionable features are:

1. The Interstate Commerce Commission is not given effective authority over state rates. Without this authority how can the Commission and the Transportation Board fully protect railroad credit?
2. The provisions as to making compensatory rates and permitting a return sufficient to maintain railroad credit and provide adequate facilities are not sufficiently definite and mandatory to produce that result.
3. Labor provisions are too diffuse to be effective.
4. The purposes for which voluntary consolidations can be made are too restrictive in their scope and the provisions as to compulsory consolidations are fatal to railroad credit.
5. The commandeering of the so-called excess earnings of individual companies, and penalizing surplus earnings if used to provide better railroad facilities, is a decided blow to operating initiative and conservative financing.
6. Railroad valuation in its present form cannot be used for the various purposes proposed in the Bill, nor can it be completed

to enable the Commission or the carriers to promptly carry out the various provisions of this proposed law.

7. Confusion of authority for acquiring property and authorizing additions and betterments.

I will comment further on some of these objections.

### RAILROAD VALUATION AND ITS USES

The valuation found by the Interstate Commerce Commission, under the present law, is claimed by the government to be a valuation only for rate making purposes, but this Bill requires the same valuation to be used for rate making, capitalization, consolidation, and the measure of a fair return, or as a selling price of the property, and apparently the Commission may change that valuation from time to time. To wait for the final valuation will cause great delay and any intention of its use for all of these purposes is bound to be disappointing. Therefore, rather than stop all progress in fixing reasonable rates, let the existing property investment be used pending final valuation, as it is the return on the property investment of a traffic district that is a guide to the Commission in rate making, and not of single companies, and so far in those districts the return has been found too low for sound railroad credit.

### AUTHORIZATION OF ADDITIONS AND BETTERMENTS

The Bill provides that the right of eminent domain cannot be exercised without a certificate of the Transportation Board and the Interstate Commerce Commission for acquisition, construction, maintenance or operation purposes, or any authorized extension or addition thereto, but authority to proceed with any new construction is divided between the State and the Federal Commissions. The construction of a new line of railroad or extension must be authorized by the Transportation Board, while the latter Board is specifically excluded from authorizing the construction of side tracks, spurs, industrial, team or switching tracks located wholly within one state—for that the railroads must apply for state authority. The question of branches and terminals does not seem to be very accurately defined. This serious question is further tied up by the approval of the issuance of securities to carry out such work being solely under Federal authority. Therefore, I regard the provisions for carrying on improvement work and exercising eminent domain under such divided Federal and State authority as detrimental to business. Industries cannot defer the establishment or extension of their plants on such a divided and dilatory process to determine new branches, sidings, or station improvements. The entire responsibility for authorizing the acquisition of all additional right of way or terminal areas, as well as all new capital expenditure work, should at least be concentrated under one board, just as the issuance of securities is to be solely under the Interstate Commerce Commission. When improvements are so authorized, no public benefit is secured by requiring the consent of any governmental body to the exercise of the power of eminent domain. The requirement of such consent would mean delay and enhanced cost of property.

## LABOR PROVISIONS—ARE THEY EFFECTIVE?

I have the following views on the labor provisions of the Bill:

Note that they primarily concern not only the management and investors but the welfare of 1,900,000 employes and affect the payment of $2,800,000,000 in wages. The final decision on railroad wages is given to the Transportation Board. No qualifications are stated for the members of this important Board, which is to deal with the operating and administrative questions of all the railroads, including wages. Subordinate to this Board is a Committee on Wages and Working Conditions, consisting of eight members, four of whom shall be selected from the persons nominated by the organized railroad working crafts on each railroad to represent labor, and four from among the persons nominated by all the railroad corporations, and I suppose the Transportation Board is expected to represent the public. Four years is the term of office and $4,000 each the compensation of the members of the Committee on Wages and Working Conditions. Unless this Committee is expected to pass all disputes to the Transportation Board, surely that short term and that salary are insignificant compared to the magnitude of this responsibility, which has tested the ability of the President and the Director General, and the Railroad Managers. For that task the best railroad managers who understand social questions as well as operating questions are needed, and the labor members must be up to the same standard. Any suggestion as to standard wages that take no account of the varying living costs and conditions as between New York, Florida, California, Kansas and Maine is contrary to economic experience. No equitable plan for the avoidance of future disputes as to wages will be complete or protective against strikes, unless a sliding scale is adopted, whereby wages will be adjusted to living costs. Settlement of wages under pressure or as a compromise, is bound to produce dissatisfaction.

### *Labor Representation on Board of Directors*

A further labor proviso is that on the Board of Directors of each carrier there shall be two labor directors and two government directors after June 30, 1920. The two labor directors shall be selected from the classified employes and nominated by the employes. The two government directors are to be appointed by the Transportation Board, and apparently whether satisfactory or unsatisfactory to each corporation. On all committees of the Corporations' Boards there shall be at least one labor director and one government director. These labor and government directors are to be compensated and their expenses paid by the corporation for attending board and committee meetings. There is nothing to show whether they are to be on the two thousand or more railroad boards of the country, or only on the boards of the operating carriers. Wages and working conditions are to be settled by the Committee on Wages and Working Conditions and by the Transportation Board in Washington so that no individual carrier corporation will have any responsibility for wages. Further, no carrier can prescribe the wages of its own employes independent of other railroads. Therefore, these labor and government directors on the Board of Directors of every carrier corporation seem to be like the fifth wheel of a wagon. They have no prescribed responsibilities or qualifications, and nothing is said as to the responsibility of the government for their votes. Looking for the results to be expected from the two government directors, the Bill does not permit railroad companies to make capital expenditures, to exercise the power of eminent domain, or to issue securities except upon government approval. What useful service, therefore, will these two government directors render? If these four directors, instead of sitting on the carrier's Board of Directors, could be elected one-half by the carrier and one-half by the employes and work as subordinates to the Committee on Wages and Working Conditions, they might give a touch of home rule to the labor question, and form a thread of a labor organization starting from the local ground and ending with the Transportation Board which might be of some benefit. This is a suggestion and not a solution of the railroad labor question but indicates the necessity for careful revision. It would appear wiser to let the Transportation Board, which has final responsibility for wages and for governmental supervision of the railroads, direct how employes and corporations and the public shall be represented, and avoid prescribing elaborate machinery.

### *The Employes' Advisory Council*

There is another labor provision, *i. e.*, an Employes' Advisory Council selected from each organized craft of railroad employes requesting representation, to administer a fund consisting of one-half of any excess earnings over a fair return, which any company guilty of that rare offense under a system of rates which must be reasonable and uniform, shall pay over to the Transportation Board. This duty might very easily be performed by the Committee on Wages and Working Conditions or the Transportation Board and dispense with this Advisory Council.

### CONSOLIDATION OF ROADS

I am in favor of consolidation. The Bill declares it is the policy of the United States to divide the railroads into not less than 20 nor more than 35 separate and distinct systems—this division to be a division in ownership and for operating purposes. Each of the systems is to be owned and operated by a distinct corporation and, where practicable, the existing routes and channels of trade and commerce are to be maintained. The systems are to be so arranged and equalized as far as practicable, that uniform transportation costs, uniform rates and the same rate of return on value may be earned.

The Transportation Board shall devise and adopt the system plans, but may thereafter change the same. The Interstate Commerce Commission must also approve them. The government will have no financial responsibility for their formation either in the voluntary consolidation plans, or in those regional companies to be mandatorily formed after seven years by order of the Transportation Board. The arresting of the laws of gravitation appears to be as easy to accomplish as to arrange and maintain these ideal systems, considering the divergent traffic, physical, financial and other conditions of the various roads in even a single traffic district. If anything is calculated to stop consolidations, and make them impossible to finance, it is a railroad alignment of this arbitrary character. The existing systems have been formed under a competitive system and follow the lines of the natural traffic routes, and are feeders and extensions of the original trunk lines, and in that way became attached to them as systems. Others might be formed gradually on similar lines, and as their organizations could be trained for the enlarged responsibilities.

The necessity for absorption, merger and consolidation of smaller corporations is apparent.

Analyzing the last complete Interstate Commerce Commission report for the year ending June 30, 1916, we find 1590 companies are divided into the following classes: class I, 189 railroads; class II, 276 railroads; class III, 431 railroads; switching and terminal companies, 227; lessor companies, 467. These 1590 companies do not include about 600 roads that are privately owned, or industrial lines not common carriers in the broad way, some of which report only to state commissions.

The 189 first class roads, together with their lessor companies, earned 97.4 per cent of the total operating revenues of the country. Now taking 162 of the chief operating companies which earned 94.6 per cent of the total operating revenues of the country, we find that they already constitute 86 systems. But only 18 systems during the test period earned over 6 per cent on their property investment, those systems being as follows: Bessemer & Lake Erie, Delaware & Hudson, Delaware, Lackawanna & Western, Elgin, Joliet & Eastern, Lehigh & New England, New York Central, Philadelphia & Reading, Atlantic Coast Line, Norfolk & Western, Alabama, New Orleans, Texas & Pacific Jct., Arizona & New Mexico, Bingham & Garfield, Chicago & Northwestern, Duluth & Iron Range, Duluth, Missabe

& Northern, El Paso & Southwestern, Great Northern, and Union Pacific.

Therefore, until earnings are increased, it is hard to see the basis on which the railroads can proceed with any wholesale plan of absorption or consolidation. The 86 systems existing can be reduced, not arbitrarily but as traffic and earnings justify. Indeed, as 23 systems already handle about 80 per cent of the total operating revenues, there seems to be no necessity or benefit to be obtained from constituting, valuing and financing new systems arbitrarily put together. These 23 systems were: Baltimore & Ohio, Boston & Maine, Delaware, Lackawanna & Western, Erie, Lehigh Valley, New York Central, New York, New Haven & Hartford, Pennsylvania, Philadelphia & Reading, Atlantic Coast Line, Chesapeake & Ohio, Illinois Central, Norfolk & Western, Southern, Atchison, Topeka & Santa Fe, Chicago & Northwestern, Chicago, Milwaukee & St. Paul, Chicago, Rock Island & Pacific, Great Northern, Northern Pacific, St. Louis & San Francisco, Southern Pacific, and Union Pacific.

What the railroads need is not an arbitrary division of the country into 20 nor more than 35 distinct and arbitrary systems formed by mandate of the Federal Government and the changing views of various boards or commissions; nor any attempts to tie the weak and the strong together, in the hope that in some way or other the few strong railroads of the country can support the weak lines, including lines that have thin traffic or should never have been constructed. The railroads want laws, that will permit the existing railway systems to absorb and eliminate the affiliated companies now owned, operated, leased or affiliated with their systems. Such further connecting roads may be added as may be required to round out these systems on a basis that would be approved by the Federal Commissions.

In the Pennsylvania System there are about 140 live companies, consisting of railroad companies, ferry companies, bridge companies, water companies and warehouse companies—all essential for transportation purposes. They are leased or operated, wholly owned, or owned in part by the parent company. Therefore, an absorption law to clear up the barriers in the existing charters and divergent state laws that prevent the absorption of such affiliated companies, to round out a single system and leave the name and securities of the parent companies unchanged, seems desirable. No such absorption of small companies by the large systems can proceed on any large scale without reasonable earnings to enable that course to be pursued, and thereafter leave the system in a strong position to do its financing on reasonable terms.

The big systems have absorbed many weak lines, and are now supporting other weak lines, and they have about reached the limit in that respect.

## STATE AND FEDERAL REGULATION OF RATES

At the conclusion of Federal control the Bill states that rates are to remain in effect until changed by competent authority. This means State as well as Federal. You can see what a hopeless state of confusion will be caused by throwing all the states into rate regulation again. The carriers are to file new schedules of rates, fares and charges with the Commission within thirty days after Federal control terminates, the same to become effective four months after they have been filed. During this period of readjustment, but for not exceeding five months, the compensation under the Federal Control Act is to be guaranteed. During the calendar year 1917 it took about seventy-five cents out of every dollar to pay operating expenses and taxes, and now it is costing over ninety cents out of every dollar. Certainly for this period of reconstruction, affecting the entire Nation, the United States Government should readjust all rates—State and Interstate—to meet the transportation costs, and properly establish railroad credit, by exercising the same control over rates as was done during Federal control. It is true that the Bill authorizes the Interstate Commerce Commission to coöperate with the State Commissions and remove any unreasonable discrimination against interstate and foreign commerce, but the Act specifically states that it does not amend or affect the existing state laws, or powers in relation to taxation or the lawful police powers of the several states, including the power to make and regulate intrastate rates except as in the Act otherwise provided. It will, therefore, be seen that such reservations will produce extensive proceedings or controversies so as to delay justice to the carriers, or to other states that may be affected by the rates made in a single state.

It also divides the responsibility as to the credit of the carriers. The declarations of policy and elements affecting reasonable rates should be made so mandatory that the Federal Commissions should have a positive duty to see that the rates, both state and interstate, are adequate to protect that credit.

The Cummins' Bill as it stands, gives us no definite or prompt assurance of adequate rates, nor does it get us away from conflicting state regulations. To make it a truly constructive measure it must be strengthened and amended in these fundamental particulars.

### COMMANDEERING OF EARNINGS OVER A FAIR RETURN

The provisions relative to commandeering and using for other railroad companies and for railroad employes the so-called excess earnings of individual companies will throw many railroad investments again into a condition of uncertainty, because a fair return is not prescribed or defined, and what may be a fair return for one company, and for one year, may at the lapse of the next year be reversed by the Commission, or be varied for other companies. There will be no incentive to any carrier to earn any money in excess of the payment of an ordinary dividend, not only because of the confiscation of the so-called excess earnings, but the further provision that any surplus earnings invested in the property cannot be capitalized or used as a basis for increased returns. Both provisions in substance will force all future additions, betterments and improvements to be provided from the issue and sale of securities. Such provisions would terminate conservative financing, as under private ownership, the money for new improvements could be had only from the sale of bonds under these conditions, and at higher interest rates to accord with the risk of bad years. If this system is once established for the railroads, it will in time be applied to all public utility companies at the outset, and later to industrial and manufacturing concerns, because their products are just as essential for the daily life of the citizen as railroad transportation.

I desire to emphasize the fact that the conservative railroads which have successfully weathered the various panics, industrial and financial, here and in England, without wiping out or reducing their dividends, are those railroads which used their surplus over reasonable dividends to provide additional facilities and equipment for the public use, instead of selling stocks or securities for that purpose.

The Pennsylvania System is a fair example. Its property cost and marketable securities, not including holdings of securities of companies forming part of the system, exceeds the total outstanding securities in the hands of the public to the extent of over $500,000,000. If the company instead of following that practice had distributed all its yearly surplus in dividends, and had sold securities for all additions and betterments to its property and equipment, it would now require $30,000,000 per annum of additional net income to pay its 6 per cent dividends, or the company's stock would have been reduced to a 4 per cent dividend, and its bonds would have had to carry a much higher rate of interest because of weaker credit. It would have been impossible for it to have sold its stock on the market, and that would have been to the detriment of the country and industry, as well as to the company's security holders and owners.

The company's surplus was not derived from excessive transportation charges. These charges have been materially below those authorized by its charter. The freight charges especially were materially reduced from the beginning of operation, about seventy years ago, to within recent years, and almost ruinous competition among the various roads had a great effect in reducing these charges. The surplus for improving the company's credit and property was obtained not only from moderate profits in the transportation business, but by paying low dividends on its stock for a long series of years, from selling its stock at premiums, and from profits realized on its investments. This surplus was invested in the property for the improvement of the same for the public use, when legitimately it might all have been disbursed in dividends to the stockholders.

## Dangers in Restricting Investment of Surplus Earnings

This practice was also followed by other companies without any regulation or legal requirements, and the public has benefited. What I object to is: (1st) the reprehensible feature that what a company earns under fair and uniform rates through good management and efficient transportation can be taken from it and given to others, thereby sapping the spirit of initiative and competition, and (2nd) Federal regulation that ultimately will create a situation in which no surplus earnings over a fair return can exist, and that absolutely penalizes the railroads if they invest any surplus earnings in the property for the benefit of the public. If these provisions are allowed to stand, then the least I can ask is that an allowance of some surplus over a fair return in good years should be made mandatory, and not permissive, to assist in lean years. Otherwise in bad years, rates would have to be increased when the shippers could least afford to pay them.

If The Pennsylvania Railroad Company after paying its fair dividends is not to have a surplus to sustain the credit and operations of weak roads in its system, then several hundred miles of railroads must stop operations and improvements, and communities must suffer.

The Pennsylvania System represents about 6.5 per cent of the whole track mileage of the country, about 13 per cent of the ton mileage, 13.5 per cent of the passenger mileage, and its track mileage is about one-half of that of Great Britain and Ireland, and it has invested for public use $1,800,000,000 in its road and equipment, approximately one-tenth of the whole railroad investment of this country. It has been opened for traffic sixty-seven years, and during that time its management has observed a sane and conservative financial and operating policy, and dealt as generously with labor in wages and welfare funds to the extent the earnings permitted. I have the honor of having served the company, with the exception of a few years, since 1871, and for over thirty years have been closely associated with the executive department, familiar with the construction of new lines and branches to serve the public and the financing, upbuilding and compacting of the system. Therefore, I can speak intelligently, and indeed feelingly, about the company's policy and affairs. So far as public regulation is concerned, for the last ten years the company has not been allowed sufficient revenues to earn 6 per cent on the cost of its property and equipment except in 1909 and 1916. Yet so far as the management is concerned, long before there was any regulation of the railroads, as we now understand it, The Pennsylvania Railroad Company did not distribute all of its net income in dividends, but judiciously applied a substantial portion to promoting, helping and upbuilding its feeders and connecting lines, to eliminating grade crossings, and for other similar construction items. It was not alone in this policy. Other companies pursued the same course, and they could be depended upon to continue such policies, under proper regulation, without injustice to the public. Then why must Congress now propose, as a future National policy, to confiscate their so-called surplus earnings and stop incentive, and on the other hand fail to definitely order reasonable rates that must produce a fair return upon which railroads can live and make progress?

### THE PROBLEM AND THE REMEDY

The Railroad problem has not changed, nor is it shrouded in mystery. It is this: railroad earnings and credit must be created sufficient to support the existing railroad investment and attract the additional capital the transportation business requires in the public interest. New capital cannot be commandeered. Therefore, adequate rates made under public approval, with opportunity for competition, initiative and incentive, is the effective remedy for the whole problem in my opinion. If adequate rates had been granted in the past decade, there would not have been a railroad problem. I desire to see the Cummins' Bill amended to definitely accomplish that result. If that mandate is not positively forthcoming as the result of the new Congressional legislation, all the boards and machinery created for regulatory purposes will be useless. Extreme care must be exercised to insure sound credit, and not theorize about it. If public regulation does not allow earnings sufficient to sustain railroad credit, and provide necessary transportation facilities, the public will be forced to regard regulation as a huge waste of money, time and effort, and demand a simplification of the situation, and start with a new slate, or drive straight for government ownership with its train of higher costs, inefficiency, and political domination of the employes and of the industries depending on the railroads. National reconstruction cannot be accomplished while railroad investments and credit are left in an unsatisfactory condition. This should spur Congress, the commissions, the investors, the employes, railroad management, and the public to work together for an equitable and prompt solution of this great problem. To

# Should Railroad Income Be Guaranteed by the Government?

By S. Davies Warfield

President, National Association of Owners of Railroad Securities

GUARANTEED return on railroad investment by the government in its effect must be considered in respect to the form in which it is given. If the guarantee is to be a fixed amount or a fixed rate through the direct obligation of the government stamped on the security itself, that is one thing. If it is to be in the form of a guarantee of income on the investment in the railroad fixed by the government, that is another. Either one of these guarantees must eventually bring the railroads under such close operation by the government for the protection of its guaranty as to take on the aspect of federal ownership.

There is what is erroneously termed a guarantee, in a form of regulation by governmental agencies, which would stabilize railroad credit and securities. It is not a guarantee in fact, but an arrangement through the direction by Congress to the Interstate Commerce Commission, or such other regulatory body as it might establish, that railroad rates shall be made whereby the railroads shall receive on the investment in them, in the aggregate, not less than a fixed minimum primary percentage return, and a division of earnings above this minimum.

Railway income, defined as the gross profit remaining after paying the operating expenses and taxes, exclusive of fixed charges on bonds and other obligations and exclusive of any return to the stockholders, has been with certain limitations guaranteed by the U. S. Railroad Administration from January 1, 1918, when the government took possession of the railroads. The government then agreed to pay as a rental for these properties the average income received by the railroads for the three year period ending June 30 of the years 1915, 1916 and 1917. This average income was defined as the "Standard Return" and the government undertook to indemnify the railroads to this extent during government control and operation. The experience with this form of guarantee has not been such as to warrant its being accepted as a permanent arrangement either by the government or the railroads. The government has not been able to manage these properties in a way to secure from operations sufficient income to pay the railroads this Standard Return and the deficit is a burden to be carried by taxation. In the light of this experience the public is not willing to perpetuate such a condition. The experience of the owners of the railroads with this arrangement is generally unsatisfactory. Under private ownership railroad managements would have looked ahead and directed the development of their properties to take care of and to stimulate the development of the territory they serve. Thus they were always building for the future certain planted equities from which there would be derived increases in income that would be cumulative. In many cases during the test period this development work was in progress and while a large portion of the investment cost was being carried in such periods, the income was still a thing of the future. These properties found that under the Standard Return this expected income could not be realized, but that they could not escape the additional fixed charges assumed to supply the capital for such development work. This led to numerous claims for additional compensation. In few instances have these claims been fully allowed and to the extent not fully allowed the enterprises of these railroads during private operation were penalized by being deprived of the revenue bought and paid for by large capital expenditures during the so-called test period.

Still another loss to the railroads resulted because under the unification process of government management the effectiveness of this development work and of expenditures therefor were unrealized, since the unification process involved in many cases the abandonment of the original purpose of this work. The restoration of these original plans is one of the serious problems facing the owners of railroads upon their return to private operation. This situation plainly demonstrates that government guarantee of railroad income is inseparable from government ownership, as the taking over of the railroads by the Administration has been really an experiment in government ownership at the cost of both the investor whose money was at stake and of the shipper and of the public whose service has been curtailed. The owners of railroad securities cannot be expected to furnish the capital and relinquish the supervision of its use even under a government guarantee of income. This was recognized as a fundamental condition by the National Association of Owners of Railroad Securities when it undertook the preparation of a plan for the return of the railroads to private ownership.

This experiment in quasi government ownership has also demonstrated clearly to the public, who use the service of the railroads, that the loss of individual initiative and incentive, together with competitive conditions, is not a policy in which the future development of the agricultural, commercial and manufacturing interests of this country can safely be risked. Any plan for the return of the railroads must deal with the requirements of these interests. The progress of the development of each of these interests in every section of the country has followed the lead of the pioneer in railroad facilities and in transportation efficiency. In this great country of ours, so largely undeveloped, the loss of private ownership of the railroads is unthinkable. A referendum on the subject of government ownership or its equivalent, government guarantee on securities, would result in its rejection by enlightened business men. Therefore, the avenue for the solution of the railroad problem does not lie in such a direction.

The true solution is available in a simple and less revolutionary form. It is to be found in applying the elementary principles of merchandising to the sale of transportation service by permitting a profit. Since the government entirely controls the rate charged for this service, the problem is to direct the use of this power in such a way as to make the return sufficient to pay the cost of the use of the property employed. This means the use of both labor and capital. Heretofore the determination of just what would be allowed for this service has been in the uncontrolled discretion of the Interstate Commerce Commission. This body in determining any railroad rate was obliged to make such rate universal. It was not permitted to recognize the difference between a railroad in a sparsely settled or undeveloped country and a railroad traversing a developed section. Even though the Commission had such discretion, it would be commercially impracticable to give a higher rate in an undeveloped country and a lower rate in a developed section. The economic effect would be to divert production and service to the territory of the lower rate where the more favorably situated carriers operate, so that railroads that were always carried entirely by private capital could not compete with either those that were carried through the pioneer period by government grant, or those territorially more favorably situated.

We have today a number of railroads whose origin would have been delayed, to the great loss of the country, had they been forced to look entirely to private capital. The effect of government or public aid in these instances has been to save the pioneer private investor from loss and to establish equities with the accompanying growth of business which have now assured large profits from their transportation service even under the standard operating conditions of the present period. The Association recognizing that the Interstate Commerce Commission could not deviate in its rate making powers to take care of the less favorably situated railroad without permitting the more favorably located road such excessive earnings as would be intolerable to the public, has as one of the fundamentals of the Plan for the Return to Private operation the principle of a statutory fixed rule for rate making with a leveling process to take care of the excess earnings. This rule provides that the railroad rate shall be sufficient to return 6 per cent upon the property values in the aggregate, and where there is an excess earned to divide this excess, preferably, into three parts; one to go to the railroad as a premium upon its ability to earn such excess, thus taking care of the equities of far sighted management; another third to be used for the benefit of labor; and the balance for the acquisition of additional facilities for universal use by all the railroads. This is somewhat analogous to the Federal Reserve System which left the individual bank to serve its community, but superimposed a regional bank whose earnings were limited to 6 per cent to the stockholders and the excess applied to creating facilities available for the use of each of the individual banks dealing with the public.

In this railroad plan there is no guarantee. If the service is not performed, even though the rate is profitable, the private ownership of the railroad receives no return upon such investment. Thus the incentive is preserved to make the division of earnings to the railroad as great as possible. The obligation of the individual railroad to serve the public in the most efficient way is left unchanged, but the control of the rate structure is such that as service is rendered a profit is returned and the elementary principle of merchandising implanted in the sale of transportation. Under such an arrangement the doors of capital now closed to the railroads would be opened and investors would freely offer funds for railroad requirements just as every other business that has opportunity for profit finds capital and credit readily available.

The idea of government guarantee takes on many forms besides the one applied during government control. There is the suggestion that government securities of a low interest rate be exchanged for all the outstanding securities of the railroads. A little reflection is necessary to show how impracticable this proposition is. To attempt to exchange existing railroad securities with their varying priorities for a government issue would be a departure in national financing greatly to be deprecated even if possible of achievement. To condemn and pay cash for these railroad properties is equally impracticable.

The quest for the way out of the present difficulties has produced other propositions equally fallacious. There is a suggestion for compulsory federal incorporation. Eminent counsel have disposed of this on constitutional grounds. The private investor looks upon the surrender of charters, under which they made their original investments, protected by the sovereign power of the states whose people are directly concerned in the prosperity of such properties, as a venture upon a sea of a peril exposed to any radical upheaval in national politics.

The crux of the problem lies with Congress. It can safely follow the rule adopted in the creation of the Federal Reserve System. The life's blood of the Federal Reserve System is the note circulating power. The keystone to this power is the gold reserve. Congress did not leave to the uncontrolled discretion of the Federal Reserve Board the regulation of this gold reserve, but by a statutory rule directed in exact terms and figures the use of this power. The life's blood of the railroad system is the rate structure. The Interstate Commerce Commission is left to struggle with the interpretation of what this rate structure should be. By the Association Plan Congress is asked to instruct the Interstate Commerce Commission by a definite rule on this question. All else in the railroad problem is a matter of detail, as the real heart of the problem requires neither government ownership nor government guarantee. It calls for no change in the corporate structure of the railroad properties in the country; it imposes no burden upon national finances such as suggested exchanges of securities for government bonds; it leaves undestroyed the outstanding securities of the corporations; it does not deal with the question of undercapitalization or overcapitalization; nor does it guarantee that overcapitalization shall obtain any advantage; it requires no complicated machinery for installation; it does not destroy the present railroad operating and financial structures, so necessary to the continued development of the country; its effect can be obtained immediately, and Congress can add such supplemental legislation as the future may direct. It is a solution of the problem, based upon common sense and devoid of the paternalistic idea of government guarantee.

# The Elements of a Satisfactory Railway Policy

By Nathan L. Amster

President, Citizen's National Railroads League, Boston, Massachusetts

THE railroad policy in the United States up to the time of Federal control, was, to say the least, slip-shod and short-sighted. It was neither conceived nor carried out with a view to obtaining coöperation between the railroads, the employes, the shippers, communities served and the public. In fact the policy was such that no foundation was laid upon which to build a lasting and satisfactory business structure which could command the public confidence or adequately serve the nation. In consequence, the railroad industry as a whole became both unprofitable and unpopular. As was inevitable from the outset, the industry, as an institution, has gone the way of all other autocratic institutions.

## Universal Relation Between Railroads and People

The people who, in the main, were responsible for both the policy and the form of railroad control of the past in their short-sightedness overlooked the fundamental fact that the railroad industry, intrinsically touches the very heart of, and indeed is, democracy. Its service comes nearer to being a part of the every-day life of the people, individually and collectively, than any other industry or institution in the country. Just how intimate is the relation between the railroads and the people is well illustrated by the fact that one-fifth of the population of the country have a direct or indirect proprietary interest in the railroads, either through ownership of stocks or bonds, or by reason of their ownership of life insurance policies or their deposits in savings banks. Then, when one considers the millions of railroad employes, the millions engaged in the manufacture and production of the fuel and supplies used by the railroads, it can be estimated that no less than one-third of our entire population is most vitally interested in the railroads, either as owners or by dependence.

## Control of Railroads in the Past

Yet, anomalous though it may be in a country essentially democratic, the control and management of the railroads—the virtual dictation of the policy of government of an institution so close to the life of so many millions of people—has been held by a score of powerful financiers or their nominees. In other words, the life and destiny of the greatest industry in our country has remained absolutely in the control of masters whose power has been as vast and autocratic as that exercised by the Hohenzollern and Hapsburg families over the life and destiny of the German and Austro-Hungarian peoples.

### OBJECTIVES IN A RAILROAD POLICY

This autocratic control, self-seeking and self-created, of the basic American industry must be overthrown and dispossessed as European autocracy has been dispossessed. The interests of the railroad business and of the nation, demand it. The dispossession of financial autocracy in the railroad world must form one of the essential elements of the transportation policy for the future. If this is not accomplished there must follow deterioration in railroad service, depreciation in railroad securities, and dissipation of railroad credit. In short, in determining a railroad policy for the future, we must democratize the industry by radical reform of the system of management and control, reëstablish railroad credit and fix once and for all time an invigorating rate policy. I am convinced that no satisfactory policy can be framed which does not assure:

1. Adequate transportation facilities.
2. Economical operation, with proper and ample provision for improvements in service.
3. A fair return on capital honestly invested.
4. A sound and scientific rate-making policy.
5. A better understanding and a closer relationship between the railroads and their employes.

In order that these fundamental reforms may be assured, I have come to the conclusion that we must, first of all, provide a means of accomplishing the following:

(a) The approximate valuation of the railroads in public service.
(b) Efficient management independent of the financial interests that controlled the roads in the past.
(c) Definite and statutory rate-making laws;
(d) Control of management and operation by the different interests concerned.

Until we arrive at the real value of the railroads in public service, we cannot find a basis for establishing what shall be a fair return on investment. Nor can we define a scientific, equitable rate-making policy without provision for a fair return and adequate freight rates. Until we can provide for the democratization of railroad management, we cannot expect transportation to be adequate or efficient nor can we look for the reëstablishment of railroad credit and public confidence.

My conclusion, therefore, is that the valuation now in progress under the direction of the Interstate Commerce Commission should be expedited and that the valuation must take into consideration, not alone the physical value of the railroads, but all other elements of values.

### REFORMS OF MANAGEMENT PROPOSED

As for the reform of management, which I have said is essential, I am of the belief that it can be obtained only after the roads have been consolidated. That there is a growing belief on the part of the people that such changes as I have indicated are desirable and absolutely necessary, is evidenced by the fact that virtually all of the plans thus far presented to committees of Congress dealing with the railroad problem (and there have been a great many presented) aim at the accomplishment of these reforms to a greater or lesser degree. Most of them however fall short of the mark and, I regret to say, many of the plans obviously are insincere.

The one bill, or plan, which in my personal opinion comes closest to covering the points I have enunciated is the one introduced in the senate by Senator Irvine L. Lenroot of Wisconsin. I do not make this statement because the Lenroot bill happens to embody many of the suggestions which I have offered to the Interstate Committees of both the House and the Senate, but because I believe that the Lenroot bill is predicated upon principles which are sound and practical, and which would result in a transportation system built upon the only elements which can assure complete satisfaction to all concerned.

### OUTSTANDING FEATURES OF THE LENROOT BILL

1. *Ownership.*—A National Railroad Corporation is created by Act of Congress to acquire, own and operate all interstate rail-

ways, the securities of the corporation to be privately owned.

2. *Management.*—The controlling power, subject to the supervision of the Interstate Commerce Commission, is held by a board of eleven directors selected by the President, by and with the advice and consent of the Senate, out of a limited number of names proposed to him by the various classes interested, as follows: two from the employes, by the Brotherhoods; two from the shipping, commercial and industrial groups represented by the United States Chamber of Commerce; two from the agricultural interests as represented by recognized farm organizations; three from the stockholders after a ballot, by mail, by all stockholders upon names proposed by a nominating committee named by the Interstate Commerce Commission; one from the members of the Interstate Commerce Commission and one from the members of the State Railway Commissions as nominated by the National Association of Railway Commissions. The directors shall name a director general who will be the operation head of the corporation, and the country will be divided into operating divisions or regions as may be deemed advisable. Each director will hold office for ten years. The problem of improving service and attaining efficiency will be dealt with by an advisory board selected from names proposed by the four great engineering societies of the country.

3. *Rates and Dividends.*—Dividends not exceeding six per centum per year will be paid on all issued stock. The Federal Government will guarantee minimum dividends of four per centum. The Act provides that the Interstate Commerce Commission, which will control rates, must fix rates sufficient to pay all operating expenses, depreciation and maintenance charges, and full dividends on the stock. In case rates so fixed yield a surplus above such amount of more than 2 per centum on all stock, rates forthwith shall be reduced. The surplus over dividends of six per centum will be divided as follows: 40 per cent to labor, 30 per cent to stockholders, 30 per cent to the public. The money paid to the public shall accumulate as a reserve of half a billion to be used to pay dividends in off years, and then to limit extensions which cannot be capitalized or to buy stock in at par and thus to reduce rates.

4. *Organization.*—The proposed corporation shall be formed by

exchanging stock in the new corporation for stock in existing companies on a basis determined by the valuation of the Interstate Commerce Commission. The value shall be arrived at by taking into consideration the original cost and the reproductive cost, using as a corrective the earnings over a period of ten years, capitalized at five per centum. The National Corporation shall have a working capital of $500,000,000 and power to buy or sell directly railroad securities of all kinds, and also the right to condemn.

These are the essential elements in the Lenroot bill which I believe would give us a lasting and satisfactory transportation policy. To my mind, the provision for complete unification and for a managing and controlling board composed of representatives democratically selected as I have outlined, would protect the country against graft and profiteering, manipulation and financial exploitation, in the conduct of the transportation business. I believe that, if some policy such as that provided in the Lenroot bill, is adopted and made the law of the land, we can achieve harmony and unity in the transportation world, and that distrust and antagonism will be eliminated and made impossible of recurrence.

In conclusion, the supreme duty of Congress is to fix upon a policy that will assure adequate and efficient transportation service at the lowest cost consistent with that service, and that will give labor representation in common with other interests, and the right to participation in profits which its efficiency makes possible. These things, in my opinion, would be assured by the enactment of the Lenroot bill.

# Invested Earnings

## Their Social Significance in Public Utility Financing

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### I. Introduction

THE earnings of public utility companies which are invested "back into plant," flow into two kinds of property. First, there is that form of investment which is necessary to keep the property intact—expenditures for repairs, maintenance, and general up-keep. And second, there is that form of investment which increases property value. This form of investment covers earnings put into additions and betterments, or as sometimes termed—extensions and improvements.

The first of these, the general up-keep and maintenance charges, has never been severely questioned as being just charges that should be met from earnings. A long line of court rulings show conclusively that in considering what is to be a just rate or charge to the consumer or user of public utility service, all expenditures for keeping the corporation property up to its original value, must be taken care of. The Knoxville Case[1] which has been broadly cited as the leading case in this matter, holds:

> Before coming to the question of profit at all, the company is entitled to earn a sufficient sum annually to provide, not only for the current repairs, but for making good the depreciation and replacing the parts of the property when they come to the end of their life. It is entitled to see that from earnings the value of the property invested is kept unimpaired so that at the end of any given term of years the original investment remains as it was at the beginning.

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[1] *Knoxville* v. *Knoxville Water Co.* (212 U. S. 1).

The second group of investments, however,—those earnings which go into increasing the capital value of a utility company by adding to and improving the property, brings forth a problem of no mean importance in public utility financing and public utility regulation. It is to be remembered that by far the larger portion of the earnings of public service corporations come from rates paid by the public. If such rates are sufficient not only to cover operating costs, maintain complete up-keep of property and pay a fair return on the investment, but in addition to provide a sufficient fund for extending and improving the plant and equipment, there is involved a problem of far reaching public and social import.

We realize this importance when we observe that earnings once invested in extensions and betterments generally connote an increased capitalization of plant—an added amount returned to the owners—which in turn calls for more earnings for dividend paying purposes. These additional earnings, made necessary by increased investment, may come from an increase in patrons, or they may be met by an increase in rates. In either case property value has been enhanced out of rates; an enhancement which amounts to an added return to the owners, provided dividend payments have been made.

Before calling attention to the different issues involved in this problem, it might be well to consider some of the facts of invested earnings in order to grasp clearly the nature and extent of this form of investment.

## II. FACTS OF INVESTED EARNINGS

The following statement is compiled from the condensed balance sheets of all steam railroads in the United States as of June 30th, 1916. It shows the disposition that has been made of the corporate surplus. Inasmuch as the corporate surplus is built in the main from past earnings, the statement portrays the avenues into which a considerable amount of the surplus earnings of our railroads has gone.

DISPOSITION OF THE CORPORATE SURPLUS
*All Steam Railroads as of June 30, 1916*
(Statistics of Railways in the U. S.)
1916

| Type of Carrier | Additions to the Property through Income and Surplus | Funded Debt Retired by Income and Surplus | Invested in Reserves from Surplus |
|---|---|---|---|
| Class 1 Carriers | $503,647,000 | $58,702,000 | $118,355,000 |
| Class 2 Carriers | 5,720,000 | 1,967,000 | 1,430,000 |
| Class 3 Carriers | 1,232,000 | 262,000 | 261,000 |
| Non-operating Carriers | 29,847,000 | 25,874,000 | 14,420,000 |
| Switching and Terminal Lines | 7,601,000 | 2,473,000 | 2,575,000 |
| Totals | $548,047,000 | $89,278,000 | $137,041,000 |

(NOTE: In addition to the above totals there is an item of $85,082,000 of surplus which has not been specifically invested.)

It should be noted that from a total credit to corporate surplus of over eight hundred and fifty millions of dollars approximately five hundred and fifty millions has been put into additions to property. In addition to this building of property from earnings all but ninety millions has been used from the surplus in order to retire the funded debt—bonds, notes, etc.

During the five year period 1912–1916 the additions to property of the railroads from income and surplus show a very rapid growth—almost a complete doubling. The increase in these years for the Class 1 roads alone was approximately a quarter of a billion dollars. The total credits for each year, as they appear on the condensed balance sheet of the Class 1 roads, follows:

*Status of the Account*
ADDITIONS TO PROPERTY FROM INCOME AND SURPLUS
*Class 1 Roads*
(Figures show total appropriation as appearing on condensed balance sheets)
(Statistics of Railways in U. S. 1912 to 1916)

| | |
|---|---|
| 1912 | $257,833,000 |
| 1913 | 387,764,000 |
| 1914 | 424,052,000 |
| 1915 | 412,266,000 |
| 1916 | 503,647,000 |

Invested earnings and the surplus problem made up a considerable part of the testimony and opinion both in the Eastern and Western rate cases[2] argued before the Interstate Commerce Commission. From these two cases several instances may be taken which show how earnings have been put into property.

The President of the Pennsylvania Company testified that since 1887 his company has put into the Pennsylvania lines east of Pittsburgh $262,000,000 from earnings. During all that time this company also paid its stockholders attractive dividends. This sum according to the statistical report of the Pennsylvania Railroad Company to the Commission for the year ending June 30, 1910, equals two-thirds of the total construction of the 2,123 miles owned by that company at that time.[3]

The financing of the Hudson River Tunnell gives another illustration. Quoting from the *London Statist:*[4]

> At the end of 1909 the total cost of the tunnel extension including real estate not permanently required for its use was $102,496,000, of which $35,000,000 has been charged against surplus income.

The Interstate Commerce Commission Reports cite another instance where regular dividends, never less than 6%, were paid the owners and in addition earnings were sufficient to enable the purchase of competing roads:[5]

> The Lake Shore and Michigan Southern on June 30, 1901, owned a majority of the capital stock of its competitor, the New York Central, Chicago & St. Louis Railroad Co. A majority of the stock of its connection, the Pittsburgh & Lake Erie Railroad, almost one-half of the capital stock of the Lake Erie & Western and over eleven million of the capital stock of the Cleveland, Cincinnati, Chicago & St. Louis Railroad Co. were purchased. Besides these it had bought up considerable holdings in other companies. All this ownership had been acquired in addition to dividends, never less than 6%, out of net earnings. In 1902 the railroads made a single purchase out of surplus of $4,728,000 of the capital stock of the Indiana, Illinois and Iowa Railroad Co. The entire capital being $5,000,000.

In municipal utilities we also find the existence of property building out of earnings. Three illustrations are taken from cases which have come before public service commissions.

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[2] *I. C. C. Reports.* Vol. XX.

[3] *I. C. C. Reports.* Vol. XX, p. 269.

[4] *The London Statist*, Dec. 17, 1910.

[5] *I. C. C. Reports.* Vol. IX, p. 382.

The Haverhill Gas and Light Co. was organized under a special charter in February, 1853, and later in that year began the supply of gas in Haverhill. Its capital stock was originally $45,000, which was increased in 1871 to $75,000. It has enjoyed the exclusive privilege of supplying gas to the city and people of Haverhill. Its management appears to have been exceptionally careful and conservative so that, in addition to the payment of an average dividend of 8%, it has accumulated a surplus of earnings invested in its plant estimated to represent approximately $300,000.[6]

A revealing of the facts of the Bridgeport Natural Gas and Oil Company also shows a high percentage of their capital value as flowing from earnings. The investment in the plant as of December 31, 1915, shows

| | |
|---|---|
| Capital Stock (From Owners) | $11,010.00 |
| Additions and Betterments (Built from Earnings) | 35,891.26 |
| Funded Debt | 4,000.00 |
| Total | $50,901 26 |

The net return in 1915 as dividends was $6,800 which on a basis of total capital value including invested earnings, shows a profit of 13⅓%. If this return is considered in terms of the cash investment made by the owners it gives a profit of 61¾%.[7]

Again in the case of the Kansas Natural Gas Co., of the $16,000-000 capital over $3,500,000 came out of earnings. This company always paid regular dividends on its stock.

Sufficient instances have been given it is hoped to show the existence of the method of increasing property by investing earnings. The method is not rare. It is such a common experience in public utility financing that any number of illustrations might be brought to our attention if time and space would permit.

## III. ADVANTAGES AND DISADVANTAGES OF INVESTED EARNINGS

Many beneficial and advantageous results come from the investing of earnings in property.

(a) For instance such a method of investment may be the only available means of securing funds to extend and improve the property. Where improvements are made which do not result in increasing the revenue, such as the building of terminals, constructing tunnels or removing grade crossings, it may prove, in fact it has proven, that it is easier to make these improvements from earnings than it is to go out in the market and sell securities in order to finance the undertaking.

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[6] *Repts. The Board of Gas and Electric Light Commissioners.* Mass., 1915.

[7] *In re Bridgeport Nat. Gas & Oil Co. P. U. R.* 1916, p. 253,

(b) Again the existence of a large surplus invested in plant forms the basis of securing good credit. The existence of such a surplus, as was shown in the Eastern Rate Case, does much to make the floating of loans, etc., an easy undertaking.

Under this benefit might be considered the advantage that comes in having a surplus to carry a company over "the seven years of lean." The maintenance of a funded reservoir which may be drawn upon in times of famine is certain to give stability to the financial condition of the utility company. The Montreal street railway franchise, which will be noted at length later, provides for the establishment of a surplus for just such a purpose. One per cent of the gross earnings is put annually into this fund until it reaches $500,000. It is built to take care of unexpected happenings that may tend to embarrass the finances of the company.

(c) The maintenance of a surplus also ties in with efficient operation. A company running on a hand to mouth existence can do little in the way of experimentation or the trying out of new policies. The existence of the surplus allows the company's policy to become flexible and thereby permits excursions into new practices which may or may not prove successful.

All the advantages that accrue with having a surplus do not mean that the surplus must be capitalized. The opposite is more likely to be advantageous. And right here it is important that attention is called to the distinction. As soon as a corporate surplus is capitalized, it loses its advantages as a flexible fund or as a balance wheel for the company's finance. Once capitalized it goes out as a decided advantage to the stockholders, but ever after becomes invested capital calling for dividend payments on the part of the company. That is, capitalization means more dividends to be paid.

It is surplus capitalized which brings up the real problem in which the public is concerned, as it then represents a direct payment to the stockholders of the corporate surplus created from rates.

The disadvantages of invested earnings may be grouped under four heads:

(a) The first disadvantage is the danger of higher charges being made on account of the investment of surplus earnings. A rate large enough to pay all costs including dividends, and sufficient to build extensions and improvements, is to the public a direct over-charge. As was quoted in the Western Rate Case:

In 1899 the unappropriated surplus in all railroads was $194,000,000, whereas in 1909 it was $800,000,000. In ten years with an increase in rate of dividends and increasing maintenance charges and a vastly increased fixed charge for interest, these carriers had accumulated a surplus of $606,000,000 or an increase of 312% over 1899.[8]

(b) Another disadvantage where the policy of investing earnings is pursued is the danger of emphasis being placed upon expenditures for extension and improvements at the expense of service and daily operation. The public should realize that the reward is too attractive to keep the company from placing earnings in investments rather than in service. The former is a real and permanent gain, the latter a direct expense. This was the situation which led the courts in the Monroe Ind. Tel. Co. Case[9] to hold:

> It has been the practice in the past for this company to build as many extensions as possible out of earnings. This has had the effect of increasing the size of the property at the expense of the service, and of the property already in existence. In other words, a more extensive plant has been built than can be maintained at present rates. The time has come when this practice must cease. Additions and betterments must be provided hereafter out of new capital secured out of the sale of stock.

(c) The greatest disadvantage in the policy of investing earnings is the effect it has on rate making. If a property valuation is allowed to be built from earnings and that valuation becomes the basis for the establishment of rates, the possibility of preventing rate increases is very small indeed. Rates are almost bound to have a spiral tendency ever moving upwards. The company in addition to paying dividends can well improve and extend its plant at will; and it can rest assured that these additions and improvements will be handed over to the owners, and their valuation form a basis for requesting added revenue. Such a policy, therefore, readily puts padlocks on hopes for rate reductions. How can lower rates be expected when added valuation is shown?

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[8] *20 I. C. C. Report*, p. 332.

[9] *P. U. R.* 1915, p. 57.

(d) The fourth disadvantage that should be noted, and which is further considered under Invested Earnings under the Régime of Regulation, is the relation that exists between invested earnings and speculation in public utility financing. Those interested in placing utility investment upon a sound basis feel that a policy of enhancing property from rates creates a basis for much speculative activity, which should be discouraged. And it is, therefore, further held that all additions and improvements should come from the sale of securities.

## IV. THE ATTITUDE OF COURTS AND PUBLIC SERVICE COMMISSIONS

As an established rule, the courts have held that the invested earnings of a public utility company are the property of the stockholders. A careful survey of all the court decisions point to this ruling. In *Bryner* v. *Butler Water Co.*,[10] Judge Williams held:

> In determining the amount of the investment by the stockholders it can make no difference that money earned by the corporation and in a position to be distributed by a dividend among its stockholders, was used to pay for improvements and stock issued in lieu of cash to the stockholders.

The decision of the Supreme Court of New Jersey in the oft-quoted Passaic Gas Case[11] conveys the same opinion as the Butler Case. The opinion affirmed by the Supreme Court reads:

> If, in the past, this gas company, out of rates exacted from consumers, had met its operating expenses and depreciation, and in addition thereto had obtained enough to pay returns to investors, and to build an actual structure used in this business, would this structure aforesaid be the lawful property of the company? The answer, it seems to us, must be in the affirmative. If the company had paid out, in addition to other payments to investors, dividends equal to the cost of building this structure, and then had issued additional stock in

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[10] *Bryner* v. *Butler Water Co.* (1897) 174, p. 231.

[11] *In re Opinion of N. J. Board of Public Utility Commission in the Passaic Gas Case* (1918) Vol. 1, p. 470 and 84 N. J. 463.

value, equal to the cost of this structure in order to repossess itself of the money required to build it, there can be no doubt that the structure built out of the proceeds of the additional securities thus sold would be the lawful property of the company. It would be none the less the company's lawful property if built out of current earnings without the issue of additional securities.

Other court decisions substantiating the above rulings will be found in:

*San Joaquin C.* v. *Stanislous Co.*, 233 U. S. 459.
*Murray* v. *Pub. Utility Com.*, 150 Pac. 147.
*Fall River Gas Case*, 214 Mass. 531.
*Grafton County Electric Light & Power Co.* v. *State*, 94 Atl. 193.

A court ruling which suggests that patrons have some indirect rights to invested earnings is the findings of the Supreme Court in the Yellow Pine Case, in which it upheld the Interstate Commerce Commission's decision.[12] The Commission found that the carriers had charged as a part of their operating expenses large sums which had, in fact, been devoted to the purchase of additions, new equipment, and to the making of permanent improvements to their roading and structures, and held that those items were not properly chargeable as operating expenses, for the reason that the shipper of today could not be properly required to pay the entire cost of an improvement or addition which was to be of permanent use. The case is one in re rate advances and definitely holds that the patrons of a railroad will not be compelled to pay a rate so large as both to pay dividends and to build up a surplus to be invested in extensions or improvements. This case, however, is a rate case and not one dealing with the question of ownership. Up to the present time the courts have unanimously held that surplus belongs to stockholders and the Yellow Pine Case does not conflict with this general holding.

The rulings of the Courts have constantly held that invested earnings belong to the stockholders. The Public Service Commissions in contrast have taken divergent stands on matters of rights of ownership to surplus; also on whether invested earnings may or may not be capitalized; and on the question of invested earnings as being considered a factor in determining rates. These different rulings might be grouped under three headings:

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[12] *Central Yellow Pine Assoc.* v. *I. C. R. R. Co.* 10 I. C. C. Rep. 505. *I. C. R. R. Co.* v. *I. C. C.* 206 U. S. 441.

First. Rulings of the Commissions determining to whom Invested Surplus shall belong.

Second. Rulings of the Commissions regarding the right to Capitalize Surplus.

Third. Rulings of the Commissions regarding the Surplus as a Rate Making Factor.

Each of these groups will be considered in turn:

(a) *Rulings of Commissions determining to whom Surplus shall belong.*

The most recent case coming before a State Commission as regards the right of ownership of earnings is the Indianapolis Water Company Case.[13] In this case the Indiana Commission held that surplus earnings invested in the plant must be included in determining the amount of the investment made by the stockholders, since such surplus is the property of the stockholders; and when invested in the plant, they are entitled to earnings thereon. This company's accounts showed a corporate surplus of $3,500,000 that would have been in the treasury of the company if it had not been invested in the property or elsewhere. The Commission stated:

> This represents the actual corporate savings from income and was the property of the stockholders.

A dissenting opinion by Commissioner Corr is enlightening in that it clearly outlines an opposite point of view. Part of Commissioner Corr's opinion is as follows:

> If the Indianapolis Water Company has earned reasonable rates on the value of its property and distributed the same to its stockholders as dividends, and, in addition has paid fixed charges and operating expenses, and provided a proper depreciation fund, then that is all it is entitled to, and any exactions from consumers in excess of this is unlawful. So that, if this surplus which has been reinvested, was so unlawfully collected, over and above just rates, it in equity belongs to the patrons of this company, and cannot be recapitalized against the public.
>
> While the legal and technical title of this accumulated surplus may be in the company, it was unlawfully accumulated, and in equity belongs to those from whom it has been involuntarily exacted. This Commission may have no legal right to order the return of the money thus unlawfully accumulated, and yet it

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[13] *P. U. R.* 1917 E., p. 557.

does have the power to, and should prevent the recapitalization of these unlawful exactions, extorted from the public by unlawful rates, against the present and future water consumers of this water company.

The Wisconsin Railroad Commission in *Charlesworth* v. *Omro Electric Light Co.*[14] very clearly held that invested earnings belong to the stockholders. The Commission ruled as follows:

> It is quite clear, also, that property paid for out of earnings is as much the property of the respondent as though paid for by new capital. Such earnings might have been first distributed among the stockholders as dividends, and later returned for investment.[15]

The Interstate Commerce Commission suggests that the surplus should perform the function of being a public fund held by the Railroad Company and used for the production of better service. Quoting from the Commission on this point:

> There is much persuasiveness in the argument that a surplus shall be permitted to accumulate which shall be in a sense a public fund out of which the carrier may create facilities which will produce more efficient and satisfactory service without adding to the liability of the road and without creating an additional value in the road which may call for a greater return in rates. This suggestion has much that is fundamental in it. It looks toward an adjustment between the public and the carriers that will be fair and profitable to both. It is an expression of the appreciation by the public service corporation of the philosophy upon which public regulation of carriers is based. Moreover some method must be found under which a carrier by its own efficiency and management shall profit. . . . . Society should not take from the wisely-managed railroad the benefits which flow from the foresight, skill and planned coöperation of its working forces.
>
> It would appear that one of the problems of the future in railroad regulation is to discover the machinery by which the railroad may justly take to itself a return for the investment which its stockholders have made, and share with the community the advantages of the surplus which it creates.
>
> . . . . Any attempt on the part of the Commission to declare and carry out such a policy would, we take it, be subjected immediately to successful attack before the courts. Since we cannot declare that accumulated surplus shall not be capitalized, the adoption of such a plan rests entirely with the carrier, and the volume of such surplus as a public trust fund depends entirely upon their own policy and good faith.

The Interstate Commerce Commission has well summed up the control that public service commissions can have as regards the ownership of surplus:

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[14] *P. U. R.* 1915 B., p. 1.

[15] *In the Western Railroad Case. I. C. C. Reports*, Vol. 20, pp. 333–34.

> Any considerations we have given and any suggestions we have made regarding the rights of ownership of surplus earnings are manifestly addressed to a body having legislative power; and until either by legislative enactment or by a generous attitude of the utility company, the surplus is treated either in whole or in part as a public fund, the matter of ownership will unquestionably rest with the private company.

### (b) *Rulings of Commissions Regarding the Right to Capitalize Surplus.*

Two public service bodies—the West Virginia Public Service Commission and the Oregon Public Service Commission—have upheld the right to capitalize or invest earnings. The West Virginia holding is in the Bridgeport National Gas and Oil Company Case.[16] The facts of this case were quoted above.

With so large a proportion as 70% of the investment being built from earnings, the Commission nevertheless held:

> In determining a fair return on the amount of capital honestly and prudently invested and having in view the value of the service to the consumer, extensions and betterments paid for out of moneys otherwise available for dividends may be capitalized where the amounts available for such purposes were at no time exorbitant, and in many instances far below a fair return on the investment.

The Oregon Commission in the Portland Railway Light and Power Company Case[17] ruled:

> The source from which the money was obtained—whether by original contribution through stocks or bonds, or from corporate surplus—is immaterial in the findings under this head.

In seeming contradiction to these views two commissions—the Illinois and Nebraska Commissions—portray the following:

In re application Citizens' Mutual Telephone Company,[18] the Illinois Commission held:

> The subscribers of the telephone utility should not be required to contribute any amount in the form of increased rates or otherwise, toward increasing the capitalizing of the plant, since only the stockholders can share in the return on such increased capitalization.

The Nebraska Commission in the Monroe Independent Telephone Company Case,[19] stated:

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[16] *P. U. R.* 1916–C, p. 253.

[17] *P. U. R.* 1916–D, p. 1012.

[18] *P. U. R.* 1915–C, p. 103.

[19] *P. U. R.* 1915–E, p. 57.

> It has been the practice in the past to build as many extensions as possible out of earnings. This has had the effect of increasing the size of the property at the expense of the service, and of the proper maintenance of the property already in existence. In other words, more plant has been built than can be maintained on the present earnings. The time has come when this practice must cease. Additions and betterments must be provided for hereafter out of new capital secured through the sale of stock.
>
> It is further ordered that any surplus remaining out of the earnings, after all operating, maintenance and depreciation expenses, and a dividend equal to 7 per cent on the outstanding capital stock, have been paid, shall be applied to the improvement of the service and the maintenance of the existing property; and, unless the approval of this Commission is first secured, none of such surplus shall be expended for the building of new lines or for any additions and betterments.

### (c) *Rulings of Commissions Regarding Invested Earnings as a Factor in Rate Making.*

When it comes to a consideration of invested earnings as forming a basis for rate determination, public service commissions have in general held that investments from earnings are not entitled to be considered on the same basis as new investments made from the sale of stocks or bonds. In the Bay State Rate Case[20] the Massachusetts Commission ruled:

> Additions and betterments paid out of earnings have no part in the investment to be taken as the basis for rate making.

The same attitude was upheld by the Connecticut Commission in re Stoddard, Gilbert & Company Case.[21] After going into the facts of this case the Commission held that the revenues beyond a return of 8%, for a surplus to be used in extending and building up facilities needed properly to handle business, should not be allowed in the proceeding to determine the reasonableness of street railway freight rates. The Wisconsin Railroad Commission[22] has stated:

> In fixing the rates of the municipal utility for municipal and general service it is equitable that consideration should be given to the fact that in addition to paying interest on the funded and floating debt, the commercial consumers have contributed materially to paying off the bonds and enlarging the plant.

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[20] *P. U. R.* 1916–F, p. 222.

[21] *Re Stoddard, Gilbert & Co. Case P. U. R.* 1918–A, p. 610.

[22] *Wisc. R. R. Comm. Skogmo* v. *River Falls, P. U. R* 1917–E, p. 964.

The Oregon Commission In Re Tualatin Valley Electric Company[23] ruled:

> The Commission does not believe that the present customers should be forced to share an undue burden of increased rates because of the neglect of the operators of the utility to provide sufficient capital for a reasonable extension and development of the business which they control.

Possibly the clearest cut attitude as regards the regulation of rates where the company has an invested surplus is stated by the Nebraska State Railway Commission in the Farmers' and Merchants' Telephone Company Case decided April 15, 1918, and not yet annotated. In this case it was agreed that the present value of the company's plant was paid for originally out of the Company's revenues, and in addition thereto most of the rural lines were paid for by subscribers. The Commission took these facts into consideration when the Company applied for an increase in its telephone rates. So important is this case in portraying a newer attitude toward the surplus that it would be well to quote at length part of their decision:

> What was and is a reasonable charge for public utility service is such a rate as will produce sufficient revenue to operate and maintain property in a good, serviceable condition, pay taxes, losses and damages, and yield a fair return on the capital contributed by the stockholders which has been honestly and prudently expended for the purpose of furnishing the service. It is evident, therefore, that if the rates collected during the life of the Company produces a revenue in excess of these requirements, the surplus belongs by right to the patrons of the utility and may be recovered for their benefit. If distributed as dividends, an assessment of stockholders will lie or the right of stockholders to earn future dividends suspended until the surplus is restored to the Company's treasury. If invested in additions to the plant, the stockholders may not earn a return upon it or capitalize it, and, per contra, if the revenues in the past have not met the requirements as to operation, maintenance, taxes, losses, damages and return, and assuming that the utility has been providently and efficiently conducted, the patrons are indebted to the utility and rates should be increased sufficiently to discharge the obligation within a reasonable time.

The Interstate Commerce Commission has also considered the matter of invested earnings in its relation to rates. In the Eastern Rate Case, it was held:

> It would appear, therefore, that both the court and the Commission are committed to the proposition that in fixing a fair return upon railroad property for the purpose of determining whether a given advance is reasonable the railway

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[23] *P. U. R.* 1918-A, p. 596.

> ought not to treat as a part of its operating expenses the cost of permanent improvements or extensions, and this must of necessity mean that the rates should not be sufficient to allow both the payment of dividends to stockholders and interest to bondholders, and an additional sum for the purpose of improving and increasing the value of the property.

In scanning the cases before the different public service commissions involving the problem of invested earnings, one is impressed with this important fact: there is a broad and far extended awakening to the issues attached to earnings which are turned into property. Commissions are finding that their existence demands a different kind of consideration than does that form of property which is purchased through stock or bond sales. In the establishment of a fair rate of return the commissions are beginning to see that invested earnings carry a responsibility to the consumers and to the public which must not be over-looked.

## V. INVESTED EARNINGS UNDER A RÉGIME OF PUBLIC REGULATION

The surplus earnings of public utility companies which find their way into extending and improving property value must be viewed differently under a régime of public regulation than they were wont to be considered in the days of little or no public control.

When only a very small amount of ineffective regulation was in existence, the public assumed no responsibility in seeing that a fair and just return was paid the investor. Risks were assumed by the investors in which these investors played the game of getting all they could and in turn they were supposed to stand ready, to carry any losses involved. By the very nature of things they played the speculative game which to some meant very large returns—real, colossal fortunes—to others, serious losses. Stock watering, bribing of legislation, controlling appropriations, falsifying accounts, hiding and camouflaging large earnings, all came into prominence as profitable activities. If the rates seemed to be too high, the fact could be readily concealed by putting surplus earnings into betterments and additions and thus increase capital investment without taxing the holders of securities. Public utilities under such a period of financing created the most likely and most natural result—a hatred, a suspicion, and a spirit of revenge in the public mind. And from that condition was born the era of regulation as a controlling influence over public service corporations.

The main purposes of regulation are to see that service is provided the public, and that fair and equitable relations are maintained among the public, the patrons and the owners. In establishing fair relations a control over rates is necessary. Public authority steps in and determines what it considers a just return. And this form of public regulation, as it further and further develops, places our problem of invested earnings in a new and different light.

*As the public assumes this greater control over utilities, the public, rather than the private company, must be prepared to meet the losses, and share in the benefits that such control entails.* The public must pay for utility service at cost whatever that cost may be. If there are any uncertain or speculative features, the public must in turn carry the burden. As far as the investors are concerned, the speculative element is on the wain and an era of sound investment is coming to the fore.

Seeing this change in public utility financing, the surplus and invested earnings take on a greater social significance. If, through the effects of regulation, the public stands willing to pay the costs of service, which costs cover a fair return on the investment, then any surplus created is a fund in which the public in equity at least have certain rights; and if the surplus is invested and capitalized, still further rights are involved.

The control by the public naturally brings up the question as to what constitutes a reasonable charge for utility service. It seems reasonable that a rate to be fair and just, should cover:

(a) All operating expenses, including payments of damages, etc.

(b) All maintenance, up-keep and depreciation charges.

(c) Taxes.

(d) A fair return on the investment, made by the stock and bond holders.

Therefore, if we accept these costs as fair and reasonable, then any further revenue in excess of these charges is a fund overcharged the patrons and which belongs by right to them. And here is the real gist of the invested earnings problem. *As we change from an era of little or no public control to an era of regulation and public responsibility, the corporate surplus built from earnings,* *whether invested or not, becomes a factor in public utility financing in which the patrons have a direct interest.*

The Supreme Court's findings in the Yellow Pine Case[24] bear witness to the same thought, when it ruled that the patrons of a railroad should not be compelled to pay a rate so large as both to pay dividends and to build up a surplus to be invested in extensions and improvements.

Let us not lose sight of the fact that as regulation grows in scope and influence it almost automatically changes unsecured, speculative risk takers into sound, secured investors. And as this change takes place, corresponding changes present themselves as regards the rights to surplus and invested earnings.

A more practical view is obtained when we consider the attempts that are being made to put the corporate surplus in a place where the patrons and public share in its benefits. This brings us to a consideration of the efforts and opinions of those in actual control and responsibility, who are trying to gain a greater socialization of the corporate surplus.

## VI. SOCIALIZING THE CORPORATE SURPLUS

Mr. Walter D. Hines, Director General of the Railroad Administration, realizes the importance that surplus created out of railroad rates should not be capitalized but should be shared with the public. This socialization of the surplus is suggested when he advocates:

> There ought to be a prescribed rate of return to which the railroads are entitled and that ought to be assured by some mandatory or statutory provision. The rate must be so fixed as to produce that return and beyond that, I think it ought to be provided that if an additional return shall be yielded from those rates, a sum to be determined for that purpose is to be put back into the property for improving the property in order to keep pace with the increase in demands for business, and that the money thus put into property out of earnings shall not be capitalized so as to further add to the value of the property. That would provide that the earnings made in excess of what was necessary to operate this property upon a standard return would be put back into property without being capitalized. This would lead to the public getting the improvements and they would not have to pay for this exploitation without any limitation of the public having the benefit thereof.[25]

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[24] 206 U. S. 441.

[25] *Address before the Philadelphia Chamber of Commerce,* June 20, 1919. Quoted in the *Phila. Public Ledger,* June 21, 1919.

The Association of Railway Security Owners in their proposed railroad plan shows a disposition to socialize the corporate surplus and to a certain extent prevent the capitalization of earnings. The earnings in excess of a fixed reasonable return are to be distributed among the employes, the railroads earning them, and *for certain improvements not to be capitalized in rate making.*

Again Mr. Paul Warburg and Mr. Victor Morawetz in their respective railroad plans suggest methods whereby the surplus earnings shall be divided between the owners and the government and possibly with labor.

Mr. Warburg would have all returns between 6% and 7% divided with the government and perhaps with labor. The earnings over 7% would go to the government in their entirety. Mr. Morawetz suggests a government guaranteed dividend of 2½% while any returns netting in excess of 4% shall be divided with the government.

That the public is entitled to share in the surplus earnings is the attitude expressed by the directors of the American Telephone & Telegraph Co.[26] These directors have evidently accepted the conclusion that the surplus shall constitute a trust to be administered in the public interest. They express the view that "ample reserves should be provided to meet not only probable happenings but possible happenings, and that such reserves should be so invested that whatever increment or revenue is to be derived from the amounts unexpended will go to the public in reduction of charges or in improvement of service."

The method or machinery for putting surplus earnings into the hands of the public is best and most definitely seen in the franchise stipulations of the Montreal Street Railways. This franchise marks the dawn of a new day in utility financing and heralds an era of greater coöperation between the public and their public service corporations. It is decidedly worth our while to consider carefully some of the important stipulations of this franchise.

(a) *A valuation on the property* was made by the Public Commission and fixed at $36,000,000.

(b) *A guarantee fund* of $500,000 is created by the owners, which is to be used to meet any excess operating expenses over the amount allowed by the Commission.

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[26] *Report of Board of Directors*, March, 1912.

(c) The franchise calls for the following regulations regarding gross earnings:

1st. That the Commission fixes *the standard of service*, and grants operating allowance per car-mile, both for motors and for trailers. The allowance is based on a six months' period.

2nd. If the Company keeps within this allowance, plus 2½% leeway, they are then allowed ⅛ of 1% *additional profit on the valuation.*

3rd. If the Company spends more than the allowance, then *the excess comes from the guarantee fund.* This fund to be kept up by the owners to $500,000.

4th. If unforeseen and extraordinary conditions call for an increase in operating expenses, *the Company may get a special grant from the commission,* which will offset the rulings above.

(d) *Depreciation.* The property is to be maintained at high efficiency, and to accomplish this a certain number of cents per car-mile are to build up a depreciation reserve of $500,000. The Commission reserves the right in the franchise to pass upon all expenditures.

(e) *An allowance of 6% on the capital valuation is allowed,* and during the period of the war this has been increased to 7%.

(f) A sum of $181,000 per year is set aside into *a fund to be used to cover discount necessary to obtain new capital.* This fund, therefore, is a preventive of any water getting into the capitalization.

(g) *The Contingent Reserve.* 1% of the gross earnings is put annually into a contingent reserve which is used to meet any extraordinary expenses. This is to be kept up to $500,000.

(h) *The Surplus.* After all expenses, costs, dividends and interests have been met, the remaining amount of net earnings is thrown into surplus. This amount is divided annually upon the following basis:

30% to go to the City.
20% to go to the stockholders.
50% to go into a fund termed "The Tolls Reduction Fund."

When this Tolls Reduction Fund reaches $1,000,000, the City may, or when it reaches $2,500,000 the City must, reduce the fares. If, on the other hand, the earnings are so low as to use up the Contingent Reserve, then fares must be increased.

(i) *If the Contingent Reserve of $500,000 falls to $300,000,* then the Tolls Reduction Fund may be called upon to replenish the Reserve, bringing it back to $500,000.

This Montreal franchise is the best instance of a contractual relation between the private companies and the public, which has removed public utility financing from the field of speculation and has placed it upon a sound investment basis. Owners, patrons and the City, each share in the surplus; and a board of control is provided to which each has the right to appeal.

Perhaps the most salient feature is the regulation regarding management. The speculative element is removed and at the same time there is provided an incentive for efficient management by allowing an additional operating profit and also a company's share in any surplus that may be created. It likewise places upon the management a penalty for inefficiency of operation. By the Public Commission's placing limitations on operating expenses that may be made, the management finds it necessary to keep within these bounds or else finds that the company is forced to make up excess costs. It is well to note that this plan thus removes the "cost-plus system"—which system passes the burdens of inefficiency on to the consumer.

This franchise has been in effect only a little over a year—too short a time for determining its permanent value as a means of financing public utility corporations. Its importance at present consists in calling to our attention the fact that definite attempts are being made to put into effect a financial method which shares the surplus earnings with the public, and which has eliminated the evils that go with the old form of speculative finance.

The problem of gaining complete coöperation between the public and the private utilities has in no ways been fully achieved. Possibly any final solution, where real coöperation exists, is impossible under private ownership, and the outcome will be nothing short of public ownership and public operation. Most certainly the railroad situation points that way.

But only as the financing of public utilities is redeemed from the speculative régime and placed upon a scientific and sound basis of investment, can real progress be made in public regulation and security of investment.

Such a basis of investment must make the public pay for the costs of all the service rendered, including a fair return on investment; and such a basis must also make the dangerous event of the public paying more than these costs an absolute impossibility.

## DISCUSSION

### By H. M. BEARDSLEY

It seems almost invidious to start this discussion with a criticism but personally I wish that Dr. Reitell had been more explicit and definite in Section II "Facts of Invested Earnings." Perhaps the railroads and gas companies have shared with the public more of the surplus earnings than really appears on the face of the figures set forth. For instance the President of the Pennsylvania Railroad is quoted as testifying that since 1887 his road had appropriated $262,000,000 from earnings to use in improvements and betterments. If he made that statement in 1917 the period covered was 30 years and the amount equalled $8,733,333 per year—not so much if it paid for all the grade crossing elimination which took place during that period. Surely the public received its dividends on that in increased safety, and the rate of fare charged by the Railroad was not increased.

Again a look at some of the cars and locomotives now running on branch lines which used to run on through trains on the main line and which have replaced still smaller cars now relegated to the scrap heap will illustrate another way in which surplus funds have been invested for the benefit of the public as well as of the owners.

In the case of the Haverhill Gas and Light Co. also, a little more information might show that although $300,000 had been invested in the plant from surplus earnings for the benefit of stockholders from 1853 to 1915 (only $4,838 per year) enough of the earnings had been socialized to be of distinct advantage to the public. In the one matter of rates for instance, my information goes to show that in 1853 gas companies generally charged from $2.50 to $3.00 per 1,000 cu. ft. for gas, whereas in 1915 the companies charging as much as $2.00 per thousand were in the minority and the average rate in cities the size of Haverhill, and located as Haverhill is with reference to coal market, would more likely have been $1.50 or perhaps even less.

Surely in this case the "advances in the art" and the growth of population which forced the company to make a larger investment (on which it received 8 per cent) brought equally as great advantages to the public in reduced rates. I freely admit that I am dealing only with suppositions as to the actual amount of rate reductions but that there were substantial reductions I firmly believe.

Under Dr. Reitell's third caption he carefully sets out the advantages and disadvantages of investing earnings. Surely no one could take exception to his clear, complete and eminently fair exposition of those advantages and disadvantages. There is absolutely no question but that the charging of rates by any public utility corporation, which are high enough to provide for upkeep, interest on the investment *and* the development of the property by the extension of its lines is a distinct social disadvantage. Such charges should not be permitted.

The question is, just where shall the line be drawn? And if the line is drawn carefully and satisfactorily in one case, it is by no means certain that a rule can be built up on that line which will be equitably usable in all cases.

It may be readily conceded that all extensions and additions to the property of a utility corporation should be paid for by money acquired through additions to the capital account. Perhaps the line can be drawn just there, and to prevent the capital account from becoming unwieldy (thus calling for a larger depreciation reserve also tending to keep up rates) it might be provided that improvements to existing plant should be paid for out of the rates received and rates kept up accordingly. I refer to such matters as changing 40 pound rails to 70 pound rails and 70 pound rails again to 100 pound rails; the changing from earth ballast to rock ballast; the changing of horse cars to cable cars and the cable cars to electric cars; the changing from belting and counter shaft to direct connection and from that again to the turbine unit and so on almost indefinitely. I have no doubt that under former practices many corporations capitalized each one of such changes as it was made so that in the end the public was paying dividends on all the equipment ever in use, many years after some of it was sold for scrap. Most Public Service Commissions now allow of course the capitalization of only the excess value of the new over the old or the equivalent of that. Perhaps, as suggested above, it would be better to capitalize only definite additions to and extensions of the plant, but let the present public which is enjoying improvements of existing plant pay for them.

As to the attitude of courts and commissions,—this changes and will continue to change with growing appreciation by both of the facts involved. Such facts for instance as are set forth so clearly in Dr. Reitell's paper. I cannot leave this point without commenting on the quotation from Commissioner Corr's dissenting opinion in the Indianapolis Water Company Case. His mention of "unlawful exactions" "unlawfully collected" seems to conflict with his admission of "the legal and technical title." It is for Commissioners to take the forward stand (the fact that we have Public Service Commissioners is a forward step) that such rates are improper and not consistent with public welfare and when the public has a reasonable basis for its acts and a good understanding of the equities involved (instead of an unreasoning hatred of all things corporate) public opinion and the court decisions will soon fall in line with the views of the most advanced Public Service Commissioner who is performing his duties with due regard to his oath of office. The Interstate Commerce Commission well says in the passage quoted: "Moreover some method must be found under which a carrier by its own efficiency and management shall profit—Society should not take from the wisely managed railroad the benefits which flow from the foresight, skill and planned coöperation of its working forces. It would appear that one of the problems of the future in railroad regulation is to discover the machinery by which the railroad may justly take to itself a return for the investment which its stockholders have made, and share with the community the surplus which *it* creates."

This brings us logically to the final section of Dr. Reitell's paper "Socializing the Corporate Surplus," in which he shows how some of the best operating and financial men are beginning to look at the problem. The Montreal Street Railway franchise seems most decidedly a step in the right direction and it would seem that greater publicity for this plan would be most helpful. The rate of return on the capital invested seems adequate and large enough to bring out more funds when necessary. The guaranty fund put up by the owners and the contingent reserve fund taken from the earnings are sufficiently large to warrant the public to expect the best of service and of equipment. It will be interesting to learn just what will happen to the fund of

$181,000 per year set aside from earnings as discount on new capital if capital is obtained at par.

Such a contract seems to be almost ideal in scope and aim and certainly is a middle ground worth trying out by both the exponents of private enterprise and those holding for municipal ownership pure and simple. The latter may be correct theoretically, but it would seem that until municipalities learn to run their police departments, their fire departments and their street departments without the scandals of the past it would be wiser for them to refrain from too great excursions into the departments of finance and operation involved in the operation of our Public Utilities.

# How Freight Rates Should Be Made

By Robert W. Woolley

Member of the Interstate Commerce Commission

When I appeared before the Interstate Commerce Committee of the United States Senate in January, 1919, and urged that the government retain control of the railroads taken over on December 28, 1917, for a definite period of five years following the proclamation of peace in order, among other things, that the method of fixing freight charges might be simplified and made uniform, or at least approximately so, the average professional traffic expert and conventionally-minded economist protested that I was a radical neophyte, an unsound experimentalist. This protest was echoed in the columns of the newspapers and of the periodical press generally.

There was never a more striking example of the fallibility of the human memory. Not only was I able to summon to my support in my condemnation of the existing so-called rate structure, the late Justice Harlan of the United States Supreme Court, Secretary Lane, formerly a member of the Interstate Commerce Commission, and the membership of the entire Interstate Commerce Commission as it was constituted in 1911, but I might have quoted in like vein from the testimony of a dozen or more traffic and shipping experts, and also not a few business men, who testified before the Cullom Committee in 1886, when the present Act to Regulate Commerce was being formulated. These witnesses strikingly set forth many cruel injustices wrought through freight rates as prescribed and manipulated by the carriers under state control or no control at all. Indeed, it could hardly be called a stretch of the imagination to say that the achievement of a simple and uniform method of freight rate making, fair to the weak and strong alike, was largely the underlying thought of the framers of this legislation. It was because of the gross inequalities everywhere evident, of high handed practices on the part of many of the carriers and favored shippers that the Act to Regulate Commerce became a national necessity. Yet Congress, with a maximum of caution, gave to the newly created Interstate Commerce Commission a law to administer which, until 1906, restricted the Commission's power to censure and advise. The result was that no matter how militantly inclined, how public spirited the early members of the Commission might have been, their ability effectively to help the public was practically negligible. So dominant carriers on the one hand and powerful shippers on the other, through a series of actions before the Commission, wrought a firmer foundation for the rate specializations which had been the very object of attack and builded thereon a mountain of rate blankets, primary markets and other preferential situations which have been perpetuated, with the result that the freight rate today, instead of being fixed and administered in the interest of all for the unit of service rendered, is the very Gibraltar of monopoly. This may appear to the average reader or even the average economist to be an extreme statement, but I propose in this article to show that the freight rate, notwithstanding the administration of it under the Act to Regulate Commerce, is still in the hands of those who seek to equalize commercial conditions at the expense of the consuming public and I propose to state what I think is the way to right the wrong done. The freight rate as it is today is more potential than a protective tariff.

I quote from my supplementary statement of February 10, 1919, to the Senate Committee on Interstate Commerce as follows:

> With reference to the recommendation, made by me, that the period of federal control be extended to five years following the date of the President's proclamation of peace, in order, among other reasons, that a standard rate structure based upon a uniform mileage rate plus terminal charges might be substituted for the numerous rate-making plans now in effect, I beg to say that the premises for the proposed rate structure lie within the political and economic principles upon which rest the commerce clauses of the Constitution, namely:
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> Art. 1, Sec. 8: "but all Duties, Imposts and Excises shall be uniform throughout the United States."
>
> Sec. 9: "No Preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another."
>
> "No Tax or Duty shall be laid on Articles exported from any State."
>
> Sec. 10: "Prohibiting any State from laying imposts or duties on imports or exports."
>
> The simple meaning of these tenets, which have withstood years of judicial interpretation, is that, in a natural sense, there shall be a freedom of commerce

between States, unhampered by artificial burdens which may bear heavily upon some localities and yield preferences to others. Natural advantages are left open alike to all, and they shall not be enlarged or diminished by artificial means. That is to say, New York City is justly entitled to retain its natural advantages; but that city should not be given still greater advantages by exemption from the burdens of commerce that fall upon other cities and states. Conversely, the geographical and commercial status of other cities should not, by a similar means, be equalized with those of New York. This doctrine, which applies between individuals as well as between localities, is clearly and nicely enunciated in *Interstate Commerce Commission* v. *Diffenbaugh*, 222 U. S., 42, 46, where Justice Holmes, speaking of the law in its generic sense, stated that it "does not attempt to equalize fortune, opportunities, or abilities." Unless the act to regulate commerce is construed and administered in conformity with these principles we are confronted with the anomaly of a special statute eating at the structure of the Constitution. That statute, however, was enacted to preserve these very principles; and it must be construed and administered as meaning that *it is not the function of transportation agencies to "equalize fortune, opportunities, or abilities."* Nevertheless, we find a modified doctrine at present running through the many reported decisions in rate complaints, namely, that rates cannot be based *alone* upon commercial considerations. When the application of this doctrine is analyzed we find that it sustains railroad practices of:

(a) Grouping together, under a common rate, many cities within a radius of as much as 500 miles (yellow pine blanket) in order to equalize commercial advantages between such cities.

(b) Charging lower rates to more distant points than to less distant intermediate points, intended to meet competition, but with the obvious effect of building up certain communities at the expense of others.

(c) Absorbing terminal charges or giving free terminal services at some localities, and levying charges at others.

Points are grouped under common rates on grain, grain products, coal, oil, forest products, meats, cattle, sugar, minerals, packing house and dairy products, fruits, vegetables, and other staples; and the considerations controlling these groupings are largely to "equalize commercial conditions," rather than to permit, as should be the case, the greatest development of natural resources and the widest distribution of raw products and manufactured articles where needed.

Like a tax or duty the freight rate attaches to the article of commerce and ultimately is borne indirectly by the consumer in the retail purchase price. It is only one of the many items of expense that enter into the total cost of production, manufacture and sale. The vendor and shipper, under trade practices, often sell their goods at a delivered price, and when this is done we are led to believe that the vendor, and not the vendee, bears the freight. But this is not true, since in all such transactions the selling price is always more than the total expenses, including freight charges, incurred by the vendor in producing, selling and delivering, the article. For example, the Chicago coal dealer may purchase coal from mine operators in the Pennsylvania coal producing sections at say *$10.00* per ton delivered. This price, of course, must be sufficiently high to compensate the mine operator for the cost to him, including freight charges at a rate of *$3.90* per ton, of laying the coal down in Chicago, plus a reasonable profit; and in turn the dealer must retail the coal at something more than *$10.00* if his carrying, selling and delivery costs are to be met and a fair profit earned. And clearly the result is no different if the dealer bought his coal f. o. b., the mine and himself paid the freight charges. The freight rate on coal is a substantial part of the retail selling price, amounting in some instances to more than 200 per cent where the haul from the mine to the market is long. But this by no means is the stopping place. The coal thus purchased may be used to generate steam in the warehouse and office buildings of a firm like Sears-Roebuck; thus the cost of producing this necessary heat, which includes the freight rate on the coal, is spread over and attaches to every article shipped from the mail order house, together with the freight charges that may have been paid on the materials entering into the manufacture of those articles. And even this is not all, since, in addition, the selling price must include the freight charges on the finished article.

Another illustration is the proportion of freight charges that is included in the price of iron and steel articles. The cost of producing a ton of pig iron at the furnace includes freight charges paid on the inbound raw materials, consisting of coal, ore and limestone. The freight rate on each of these is a substantial proportion of the selling price at the mines. Bars, billets and blooms are turned from the pig iron, and when these are shipped to a manufacturer additional freight charges are paid, which attach to the price of the finished article. When the finished articles are shipped forward to the wholesaler in carload lots a further freight charge is incurred, and this too attaches to the price of the article. Even here the end is not reached, since still a further transportation charge is encountered, which becomes a part of the selling price to the consumer, when the wholesaler distributes to the retailers in less than carload lots.

Fat cattle start on their journey from Texas to market. From the carcass at the slaughter house many products issue. Each product has attached to it a share of the transportation charge paid on the live cattle. The dressed beef ultimately finds its way to the domestic table, and the price paid includes not only the freight charges on the dressed beef, but also a part of the freight charges paid on the live cattle. The hide is shipped to the tannery, and thence goes forward to the shoe manufacturer in the form of leather. The price of the leather includes freight charges on the live cattle, the hide, the coal, bark, and other materials used at the tannery. Finally shoes are produced, and the price of these, aside from including the cost of their own transportation, includes in part the cost of transporting the live cattle, the hide, the coal, bark and other materials used at the tannery, and in addition the transportation charges on coal and other materials and supplies used in manufacturing the shoes.

These simple, and perhaps unnecessary, illustrations might be multiplied. Those presented, however, are sufficient to hold in view two fundamental facts: first, that the retail purchaser, or consumer, actually bears the full burden of transportation charges paid in the first instance by producers, manufacturers, and dealers, whom we shall call, collectively, the shipper; second, that this charge, even if fairly spread over the retail units, is an important factor in the prices paid for the necessities and comforts of life, and is thus impressed with a public interest far superior to the selfish interests of individual shippers.

But is there a fair spreading of this burden over the retail units? As will be seen from the foregoing illustrations, the retail prices of iron and steel articles are affected not alone by an increase in the transportation rates on those particular articles. They are affected as well by increases in the rates on coal, ore and limestone. The dealer in each of these materials increases his price at least to the extent of the measure of the increases in rates. The dealer in iron and steel articles does likewise. So that in the end, through a compounding process, a general increase in freight rates has a tendency, like the imposition of taxes, unduly to inflate retail prices. It affords an opportunity and excuse for the retailer to add arbitrary amounts to his prices, usually much greater than is justified by the increases in rates. This is often done.

Notwithstanding the fact that the consumer, and not the shipper, bears the transportation charges, we seldom hear of anyone except the shipper attacking a freight rate as too high, unduly prejudicial, or otherwise unlawful. The reason is not a mystery. The consumer does not pay the freight charges as such. They are hidden from his view in the retail prices, just as are the indirect taxes and duties levied upon articles of commerce. On the other hand, the freight rate is in clear view of the shipper. He pays the freight charges in the first instance, and even though he passes them along later in the price of his goods, he still is interested in their measure, since such charges constitute an expense that enlarges the ultimate selling price. That price must be kept within, if not below, the range of competitors' prices. A freight rate available to a shipper in one community higher than contemporaneously available to a competing shipper in another community, when both are seeking the same market, gives to one an advantage over the other in the cost of production, manufacture, or selling. Hence, each shipper is interested in securing a transportation rate as low as that available to his competitors, and if possible one that is still lower. If he has the lower rate his interest is to keep his competitor from getting one that is as low. The controlling considerations in such matters are the location of the shipper's business establishment in reference to the markets he seeks to enter and the location of his competitors. The volume of the freight rate, in cents per 100 pounds, increases with distances. It costs more to carry freight 500 miles than to carry it 100 miles and it is to be expected that the freight rate would be correspondingly more. By the measure of this difference, whatever it may be, the shipper at the point nearest to market has a trade advantage over his competitor at the more distant point; and the competitor at the more distant point, finding himself at a disadvantage, seeks to overcome it by having the railroads equalize the rates as between the two widely separated shipping points irrespective of the differences in distances and transportation costs. What they mean by equalization is in reality a discrimination, since it contemplates giving to some shippers a greater measure of service than is given to others for the same rate. In result it takes away from some shippers their natural advantages and gives artificial advantages to others.

Stated in another way, the shipper seems to proceed upon the theory that it is, and properly should be, the function of the carriers to bear the cost of eliminating commercial trade disadvantages of location. To some extent the carriers, in their pursuit of tonnage, and particularly where they are in competition with each other from a transportation standpoint, have encouraged this idea.

These artificial forces account in a large measure for the rather extended scheme of group rate making which at present prevails, examples of which are the so-called "yellow pine blanket" of the south; the "Texas common-point group," 500 miles long and 450 miles wide, before it was recently broken; the grouping of the blast furnaces in the Pittsburgh district; the grouping of coal mines in the several coal districts; the grouping of the apple, potato and grain growing sections; and many others that might be mentioned. The scheme contemplates that all points in each group, irrespective of distances and transportation costs, will have a common rate to each of the several markets, or, conversely, that all of the markets in a given group will have a common rate from each of the several shipping points. A point of importance to mark here, however, is that the real interest of the shipper is not in the measure of his rate in cents per 100 pounds, but in the relation of that rate to the rates available to his competitors. This is what he constantly fights for as distinguished from the more superior interest of the consumer in the volume of the charge. It is not exaggeration to say that more than 90 per cent of the complaints brought by shippers before rate regulating bodies rest upon dissatisfaction with the relation between rates rather than upon the measure of the rates. Illuminating examples are the *Intermountain Rate Cases*,[1] where Reno, Odgen, Spokane and other intermountain cities were seeking rates at least not higher than those contemporaneously applicable from the east to the more distant Pacific coast cities; the *Interior Iowa Cases*,[2] where the Iowa shippers sought a fair prorate of the rates between the Missouri River and points east of the Indiana-Illinois state line; the *Mississippi River Cases*,[3] where the shippers located in the upper river cities asked to be placed upon a rate parity with the shippers in the lower river cities. Many other large cases of similar importance and thousands of smaller ones might be cited.

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[1] 15 I. C. C. 376; 19 I. C. C. 162, 238, 257; 21 I. C. C. 329, 400; 23 I. C. C. 454, 456; 32 I. C. C. 611; 34 I. C. C. 13; 40 I. C. C. 35; 46 I. C. C. 236.

[2] 28 I. C. C. 64; 29 I. C. C. 536; 46 I. C. C. 39.

[3] 28 I. C. C. 47; 29 I. C. C. 47; 46 I. C. C. 20.

In attacking rates from this standpoint, under rate regulating statutes, a rather interesting field of occupation is provided for a group of persons that have become known as traffic experts. Usually they are graduates from the traffic departments of the railroads. They watch freight rate fluctuations like the broker watches the stock market, and largely by comparison of one rate or set of rates with another, find a basis for making a complaint. It is their business also to endeavor to secure advantages in freight rates over competitive shippers and communities wherever there is the remotest ground for urging that location, transportation conditions, or some other circumstance, will justify such an advantage. These experts are comparatively well paid and there are thousands of them at work throughout the country. In addition there is a group of lawyers who receive good fees in specializing in this practice. But the end is not yet. There are about 48 state railroad commissions or boards, also the Interstate Commerce Commission, each of which, apart from its own membership, employs a corps of trained experts who are constantly engaged in hearing the complaints brought by the traffic expert. Incident to such hearings, and in addition to the salary item, there is a substantial expenditure in the nature of traveling expenses, per diem, short-hand reporters and printing.

No statistics showing the aggregate amount expended annually by shippers, the states and the federal government, for rate regulation appear to have been compiled, but whatever the amount, at least in the millions, it falls indirectly upon the consumer in the retail prices he pays for living. The point for emphasis here is that in the process of regulation the rates go up or down as a result of orders entered by the regulating bodies in particular situations. And contemporaneously with the announcement of such orders hundreds of minds are comparing the rates so fixed with other rates to see if there is not some basis for attacking the rates in which they, or their clients, are interested. An order entered requiring the reduction in a particular rate, or a set of rates, may throw out of just relationship many other rates not then before the regulating bodies for consideration. Thus it happens that from year to year there is a constant tinkering, largely in piece-meal fashion, with the many rate adjustments. The unintentional result is that rate regulation itself, in the form we have it, actually breeds complaints and indirectly lays a burdensome expense upon the consumer that is incurred, not for his benefit, but for the selfish interest of particular shippers.

There is still another angle to the situation. If a shipper who, in the price of his goods, has passed along to the public the freight charges he has paid in the first instance, is able to convince the rate regulating body that the freight rate he paid and passed along was unreasonable, he, *and not the consumer,* becomes entitled to an award of damages measured by the amount of the overpayment, and thus comes into possession of what in homely language we sometimes call "velvet." This "velvet" operates to reduce the carrier's net revenue, and if upon analysis it is found that the net revenue is inadequate an increase in rates is authorized. The increase is spread over many articles of commerce and a part of it is used to provide shippers with "velvet" whenever they are able to convince a rate regulating body that the rate they paid, *and passed along to the consumer,* was unreasonable. This may seem a peculiar law, but our highest tribunal has said that it is the law.[4]

We may now pass to the interest of the carrier, which clearly is to obtain through the assessment of rates a sufficient amount of gross income to pay all of its operating expenses, taxes, interest charges, and still have left a fair return upon the investment.[5] The ratio of railroad operating expenses to gross revenue in the more normal period of years preceding federal control averaged approximately *70 per cent.* It will thus be seen that the out-of-pocket cost to the carriers of performing the service eats up by far the greater part of the freight rate. Cost of conducting transportation, therefore, should be a controlling consideration in the fixing of freight rates.

Freight service is conducted largely in units of car-miles. That is to say, the power and the cars are the movable facilities and the cost of moving them increases with distance. The average weight of the empty car hauled by the locomotive is little less than the average weight of the freight contained in the cars. Commodities which load heavy are, of course, exceptions. So that the major portion of the transportation cost is incurred in moving the car, and this cost is the same whether the car contains clothes pins, canned goods or automobile tires. The volume of weight in the car may place slight added burden upon the hauling power of the locomotive and to that extent the heavier load may be a little more expensive per car-mile to handle. Perishable commodities, which load light, and require special protection, are more costly to handle than non-perishable freight. And there are some other distinctions that might be made, such as the cost of transporting cattle. But as a whole the average cost per car-mile is the most reliable unit that can be used. At the terminals, in picking up and delivering loads, the car is the unit, irrespective of its contents. It costs no more to switch a carload of nails than it does to switch a carload of coal; nor does it cost any more to switch a carload of hardware than it does to switch a carload of lumber. Nevertheless, under the chaotic and unscientific system which has grown up, a relic of ages, we have thousands of different rates on different articles of commerce on which the transportation cost for a like measure of service is the same. The explanation is that the risk on the higher valued articles is greater, and that some articles can bear a higher transportation charge than others. In reality the risk is merely a matter of insurance premium, and who will suggest that on the classes of traffic moving in the greatest volume the insurance premium for the period of transportation, reduced to cents per hundred pounds, would appreciably enlarge the volume of the freight rate even to the extent of one cent a hundred pounds! The other explanation, that some articles can bear a higher transportation charge than others, suggests that the railroads are at liberty to disregard transportation costs and impose what in their judgment would be a fair transportation tax on certain articles of commerce, depending upon the value of the transportation to the dealer, the profit he makes, the necessity for transportation, and other strategical considerations that have no relation to the cost of conducting the service. This, indeed, is a questionable policy, and one that certainly is not in the interest of the consumer who ultimately bears the freight charges.

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[4] *Southern Pac. Co.* v. *Darnell Taenzer Co.*, 245 U. S. 531.

[5] Purposely there is left out of consideration the question of over-capitalization, returns on watered stocks, and kindred matters, since it is generally conceded that the return of the carriers should be calculated upon the actual money invested in the property.

To begin with, the rate structure rests upon three principal freight classifications. This is where the railroads begin to differentiate between the rates that are to be paid on the different articles of commerce, without reference to the fact that most of them are transported for a given distance at the same cost. In the western classification there are five numbered and five lettered classes; in the official classification six numbered classes, and in the southern classification six numbered and six lettered classes. But beyond being mere symbols for defined groups of articles these classification ratings have no meaning in so far as the level or the relationship of the rates are concerned. They do not mean, for example, that 2nd class, or any of the lower classes are fixed and definite percentages of 1st class. Selecting the class scales applicable west, north and south from Chicago, it will be found that the lower classes are related to 1st class by about as many different percentages as there are class scales. A more comprehensive idea of these classification ratings will be found in the recent *Consolidated Classification Case*, 54 I. C. C. 1. Apart from these ratings, however, there are hundreds of exceptions, commodity rates and special commodity rates, which were established under pressure of both transportation and commercial competition, and with little reference to transportation costs. Here again the railroads, whether intentionally or not, are indirectly engaged in creating artificial commercial advantages in the form of freight rates and in like form imposing unjust burdens and inequalities. These are the very evils that legislation providing for rate regulation intended to eliminate, but I venture the suggestion that they never will be eliminated until we have established a uniform rate structure universally applicable.

There should be a very clear understanding of what is meant by uniformity in rates. From many quarters there is indication that people have different ideas about it. Obviously it does not mean that shippers throughout the country should have a postage stamp freight rate; that is, the same rate in cents per hundred pounds on a given commodity irrespective of distance or the measure of service. This would not mean uniformity, but a scheme under which the railroad freight rate would be used, *even more extensively than it now is*, as a means of interfering with natural opportunities in the sense that, *by operation of law*, artificial burdens would continue to be laid on some and artificial advantages given to others. Clearly this is antagonistic to and not the object of the law. The framers of our Constitution thoughtfully sought to avoid any such result. Taxes could not be levied in that way. No one familiar with our organic law would suggest imposing a tax or duty upon an article of commerce unless it was made universal and uniformly applicable both as to the measure of the tax rate and the commercial or trade unit to which that rate was intended to apply; it would be so much on a fixed unit of value, or so much on a fixed unit of quantity expressed in weight or measure. The tax is levied by the government; the freight rate by the railroads under government regulation. Both attach to the article of commerce as a part of the expense of production, manufacture, distribution and sale; both reach the consumer indirectly in the retail prices he pays for living; both affect the shipper the same way. Why then should not both be controlled by the same principle of law?

When we speak of uniformity in freight rates there should be in mind only that same uniformity which the law requires to be observed in the assessment of taxes; that is, for a fixed unit of service on a given commodity the rates should be universally the same. The service, as before stated, is performed in units of car-miles; hence the foundation for a uniform system of freight rates should be so many cents per car-mile, with a separate charge for terminal services. Additional charges should be made for special services, such as reconsignment, storage, transit privileges, loading and unloading carload freight, "trap" or "ferry" car services, drayage, lighterage, refrigeration, wharfage, and others of similar nature. Such an adjustment would do away with the discriminatory practices of absorbing switching charges for some shippers on given traffic at certain places and levying charges against others. Rates thus made would be *per se* free from unjust discrimination and undue preference. There would no longer be a question about rate relations between shippers and the numerous complaints that spring from such situations would cease. Instead there would enter that stability and certainty in rate making that the thoughtful business man has long been seeking. The annual expenditure for rate regulation would be very much less, since the rate expert's aid no longer would be needed. The only regulation which would then be necessary would be in the interest of the public as a whole (the consumer) and not as it is now, largely in the interest of the private shipper, from which the public gets little benefit. Such regulation would keep the rates at a proper level—the public would know how to figure them—and the dealer would not have as much opportunity unduly to inflate prices under the excuse that the freight rate compelled it. Although presumed to act in the public interest the rate regulating bodies, under our present system, seldom hear the public side of the rate question; they hear only the parties with a selfish interest, namely, the shipper and the carrier.

These suggestions doubtless will give rise to countless questions and a generous share of criticism. Space will not permit me here to answer many questions which readily may be anticipated. The critic will ask, how can coal pay the same rate per car-mile for 100 miles that it pays for 1000 miles, and the same question will arise in respect of hundreds of other commodities. We will be told that the inflexible car-mile rate, plus a terminal charge, will "bottle-up" certain producing sections, stop or diminish production, drive many long established enterprises out of business. In short, by some, particularly those less thoughtful or with a pronounced selfish viewpoint, the anticipated result will be pictured as a great calamity that would stop the wheels of industry. That such would not be the result I believe is susceptible of mathematical demonstration, and I invite those with any such view in mind to disprove it themselves by use of the pencil and paper. I shall be glad to assist them if that be necessary. And when they go to work on the problem let me suggest also that they keep in mind the extent to which each shipper, in meeting commercial trade competition, must himself, without the assistance of the railroads or the freight rate, bear or overcome in some form of ingenious economy, the disadvantages in cost of production, manufacture, sale, and distribution, that do not spring from the transportation problem. A few illustrations are sufficient. The wage scale, hours of labor and child labor laws, are not uniform throughout the country. Adjoining fields of production and manufacture, in sharp competition, each must in some way take care of the differences in cost to them arising out of disadvantages in local labor situations.

The tax laws, police regulations, and property values are not the same in all states, some being less burdensome than others. The shipper who, in such particulars, is compelled to bear the heavier burden gets no help from the railroads or any other source, and unless he can economize in some other direction must take less net profit than his more fortunate competitor if he is to meet that competitor's prices. The off-track shippers in a single industrial center, competing with each other, must themselves take care of any difference in cost to them of trucking freight to and from the carrier's depot. One shipper may be three miles from the depot, and employ auto trucks, while his competitor may have a business establishment abutting the carrier's right of way. Would anyone suggest that it would be economically sound and in the interest of the public to adjust the freight rate so as to relieve the uptown shipper, three miles from the depot, of his auto truck expense so that he would be upon an equality with his competitor located adjacent to the carrier's right of way? I hardly think so. Nevertheless, this is exactly what the carriers do when they charge for a 1000-mile haul the same rate that they charge for a 700-mile haul. Think closely, too, of the idea behind this. It is to enable the competitors to meet each other's prices at the same cost to them; but also may it not, and does it not, permit them *to hold prices at a fixed level,* unaffected by competition? Are the carriers to continue helping the already crafty shipper in that direction?

The suggestion of uniformity in the form of a car-mile rate plus a terminal charge is merely the suggestion of a basic standard, and I have not undertaken here to enter upon a discussion of the detail and refinement incident to putting it into operation. Suffice to say that no practical difficulty stands in the way. With a basic standard once adopted, predicated upon the carload movement, it would be comparatively simple to work from it an acceptable uniform less-than-carload scale. The level of these scales would be fixed by the amount of gross revenue required by the carriers to yield a fair return upon their investment.

# Financial Needs of the Railways

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ANY attempt to forecast railway finances is a hazardous proceeding at the present time, owing to the uncertainty that surrounds the future of the American railway system. In what follows, the underlying assumptions are that the President will adhere to his decision to return the railways to their owners at the close of the present year; that they will thereupon continue under private management and ownership, with such modified provisions for regulation and rate-making as may be imposed by Congress; finally, that these modifications will almost certainly be such as to have a bearing on railway credit and, therefore, on the ability of the railways to finance their needs.

The problem of railway financial needs may be studied under three principal heads: First, the physical needs of the railways; second, the cost of such physical needs; third, how such cost is to be financed.

## Physical Needs

In a sense the present article is a companion to one by the writer in *The Annals* for March, 1918, which endeavored to reach an estimate of the physical needs of the railways while under federal control. It was estimated that the railways of the United States, during the period of federal control, would be under the necessity of putting not less than $500,000,000 a year into their property in the form of additions and improvements to plant. This estimate was based on an annual addition of 500 miles of main line, 2,500 miles of other tracks, 2,000 new locomotives, 50,000 new freight cars, and various terminal and other facilities. By "new" locomotives and cars is meant *net* additions, over and above replacement needs. The record for 1918, which of course was not available at the time that article was written, shows that there were added to railway equipment during 1918 about 1,000 new locomotives, no freight cars, and no passenger cars. In fact, the number of freight and passenger cars built during 1918 was probably insufficient to replace those retired for various causes.

The conclusion is inevitable that the railways will face a heavy improvement program when they regain control of their properties.

To arrive at an idea of future financial needs, one must also have some knowledge of physical needs, and that in turn depends on an estimate, or guess, as to what the demands of traffic will be. Growth of traffic has been very unusual during the past few years. In discussing this,[1] I have shown that whereas for several years up to 1915 the annual increase in ton-mileage was about 4 per cent, and in passenger-mileage about 2 per cent, the increase from 1915 to 1917 was at the rate of about 20 per cent a year for ton-miles and nearly 7 per cent for passenger-miles. Bringing the statistics down to a later date, we find that the results thus far recorded for 1919 show traffic increases over the corresponding period of 1915 approximating 30 per cent, or an annual average of about 7 per cent over a four-year period. Freight traffic during the first eight months of 1919 was less by about one-seventh than during the corresponding months of 1918 and 1917. Even so, the annual rate of increase since 1915 has been much greater than during the period just preceding 1915. This unusual recent growth in traffic may be ascribed in part to the war, which undoubtedly had a very definite influence; on the other hand, the year 1919 has been for the United States a time of comparative peace. Again, the next few years will doubtless see a large amount of traffic due solely to the necessities of the reconstruction period. We are reasonably safe, therefore, in counting on a growing demand for transportation for some years to come. That means increased physical needs, and at the greatly increased prices now prevailing, as compared with those of the pre-war period, the conclusion is again inevitable that the future need of the railways for new money will be very great.

Another point in this connection is that there was a necessary slackening of railway improvement work during the war, which was not in any sense obviated thereby, but was for the most part merely *deferred* to a later date.

When improvements are deferred who is it that suffers? Chiefly the public, who must pay unnecessarily high rates for service that is below standard. When the roads are returned to private management, will they not look back over a period when railway improvements did not keep up with the growth of traffic? If so, it will take an unusual amount of financing to carry them through the period of readjustment. Examples of how the railways were bending every energy to make improvements demanded by the public (before government control) have come to light with the filing by numerous railways of applications with the Railroad Administration for a larger income guarantee than the standard return shown by their annual reports for the three-year test period. These applications for an increased guarantee are based for the most part on the unusually heavy expenditures for additions and betterments just prior to and during the test period. Railway managements during this period were trying to keep their plants up to the requirements of the growing territory served, and if they were meeting with difficulty then, how much greater will be the problem in the future? All signs, then, point to heavy financial burdens for the railways in the future. Traffic growth will continue to demand new railway facilities, and in addition there is the slack of the past two years that must be taken up.

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[1] See article already referred to, *Annals*, March, 1918, especially pages 43 and 44, where the growth of traffic from 1915 to 1917 is described.

## FINANCIAL NEEDS

As an essay in prophecy, let us assume that the traffic in 1920 and succeeding years will be one-third greater than in 1916 (1919 having been nearly one-third greater than 1915), and that it cannot be efficiently handled without at least a ten per cent increase in equipment and other facilities. I take 1916 rather than 1915 as a basis of comparison because it was the best traffic year in the history of the American railways, up to our entry into the war. This would mean that as soon as practicable after the first of January, 1920, railway investment should be increased to such an extent as to be greater than in 1916 by from $2,000,000,000 to $2,500,000,000.[2] As a matter of fact, less than $1,500,000,000 will have been invested by the close of the present year. In other words, the railways have fallen perhaps $1,000,000,000, or more than a year's needs, behind their normal program during the past three or four years. This gives some indication—although it is only approximate—of the extent of slackening in improvement work. In addition, the roads should have not less than $500,000,000 a year to keep up with the growing needs of the country. In fact, the amount ought probably to be stated as above $600,000,000, or (if allowance be made for the extent to which the railways must catch up on their improvement program) as high as $750,000,000. This annual addition of from $500,000,000 to $750,000,000 is predicated in part on the normal pre-war expenditure of $468,000,000 a year (which was the average of the years 1913 to 1917), with an allowance for increased prices, in part on the estimate for the period of federal control already referred to, and in part on the record actually made by the United States Railroad Administration. The Railroad Administration naturally made only the most needed additions and improvements, leaving to the period of renewed private control the less necessitous demands for additional facilities. Yet with all this, the capital expenditures authorized by the Railroad Administration in 1918 amounted to $851,000,000. This was not necessarily a one-year program, it is true, yet with the authorizations made in 1919 the annual average promises to be well over $500,000,000. This is in spite of the fact that authorizations in 1919 were pared to the bone, due probably as much to the impoverished condition of the Railroad Administration treasury as to the fact that the fighting was over and the return of the roads to their owners was looming on the horizon. Director General Hines' statement to the House Sub-committee on Appropriations in June (Hearings, page 144) on this point is as follows: "Our definite policy is that we are not going to make any capital expenditures for the year 1919 for these companies unless they finance them themselves *or unless they are of such an urgent character that we must go ahead with them in advance of arranging the financing.*" (Italics mine.)

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[2] Railway investment was about $17,500,000,000 on June 30, 1916. A 10 per cent increase in facilities, assuming price levels to remain constant, would mean an addition to investment of $1,750,000,000. But prices having increased from 50 to 100 per cent since 1916, it does not seem unreasonable to estimate that $2,500,000,000 may be more nearly the present cost of the needed 10 per cent increase in facilities than $1,750,000,000. This 10 per cent estimate of needs, considering the tremendous jump in traffic since 1916, seems to me very moderate.

Whether the annual needs prove to be half a billion, or three quarters of a billion, the amounts seem like enormous sums, and they are. But we are dealing with a gigantic industry whose invested capital is already nearing twenty billions of dollars, and whose needs are constantly growing.

## FINANCING THE NEEDS

Before taking up the question of financing, let us glance for a moment at the distinction between cost of maintenance and cost of improvements. To maintain the railway properties in such shape as to keep them fit to function properly and adequately calls for an annual expenditure running into many hundreds of millions. In 1918 it cost the United States Railroad Administration $1,737,000,000 for maintenance. This expenditure is, however, a *current expense*, normally met out of operating revenues. For the purposes of the present discussion, it will be assumed that rates will continue to be so adjusted as to cover maintenance costs. No special question of financing therefore arises in that connection.

Improvement costs fall into a wholly different category. Improvements are of two general types—either they consist of extensions of railway lines into new territory, or they represent the betterment of railway property already under operation, including both the stationary plant and the equipment. The latter type, denominated for the most part by the Interstate Commerce Commission as "additions and betterments," is far more important than the former, inasmuch as the amount of new railway construction has been very small in recent years. Both types are *capital* improvements, their primary cost has but little relation to operating expenses, and the money investment they represent must appear in the railway balance sheet as part of the property assets.

The cost of improvements can be financed in only two ways—either it is met out of surplus accumulations from the earnings of the current or former years and specifically appropriated by railway boards of directors for the purpose, or it must be financed through the issue and sale of new securities. During the calendar year 1917 railways of Classes I and II (which own or operate about 99 per cent of the total railway investment) added to their property investment about $572,000,000. It is difficult to ascertain with exactitude how this $572,000,000 was financed, but we know from a general study of the comparative balance sheets at the beginning and close of the year, and the income and profits and loss accounts for the year, that considerably less than a fifth of the amount came from earnings. It follows that a large proportion of any railway financing must be done through the sale of securities, while only a fraction can be provided for out of surplus earnings.

If the American railways are to need from a half to three-quarters of a billion dollars a year, it is a vital question how the financing is to be carried out. In the past, the railways and their bankers have had no great difficulty, on the whole, in convincing the investor as to the integrity of railway securities. Of late the task has grown continually more difficult, and the tendency of capital to flow into industrial rather than railway channels has been marked. In the future, much will depend on the form that railway organization will take, and particularly on the extent to which the government becomes a partner, if at all, in railway responsibilities. If the government should go to the extent of guaranteeing future issues of railway securities, interest or principal or both, the problem would be much simplified. This seems hardly probable. If the number of railway corporations is much reduced, as appears more likely, the problem will be simplified in a different way, in that railway credit will depend on the *average* results of a considerable number of railway units combined in a single large unit. But the complications involved in uniting these smaller units, so as to preserve their properties intact and maintain the priorities of the mortgage rights involved, are so great that the whole question of enforced consolidations still seems to me an open one. In any case, this is not the place to enter upon that discussion.

While it is difficult, almost to the point of impracticability, to indicate how railway financing will be done in the future, it may not be amiss to point out that recent tendencies in the field of railway credit ought not to continue. With a few notable exceptions there have been no new issues of railway stock for the past five or six years. Capital stock has replaced bonds in the process of reorganizing some railway companies, but the amount of new stock issued and sold for cash in the open market has been relatively very small. Even in the case of railway bonds, there has been growing difficulty in placing new issues, and many of the less prosperous roads have been forced to the costly expedient of issuing short-term notes, selling them frequently below par and at high rates of interest. As a result of this process of financing through bonds rather than stock, railway security holders are becoming *creditors* of the railways, rather than *owners*. Railway bonds today constitute 60 per cent of total railway securities outstanding in the hands of the public. Fixed charges are growing, and the present tendency unless checked will at the same time increase the annual burdens of the railway companies and decrease their ability to finance their future needs.

This note of warning is not uttered in a pessimistic spirit, but merely in the hope that those who are responsible for the future of the American railways will make it possible for them to secure the capital needed for their growth on a basis equitable both to the investor and the companies, and that a large proportion of the new capital will be stock, reasonably assured of a fair rate of dividends.

There is one phase of this question which I have thus far passed over as being merely incidental, although in itself it is an important matter. I refer to the amounts which the Railroad Administration will have advanced and expended on behalf of the railways for new equipment and improvements, a large proportion of which will not have been repaid by the railways when they are returned to their owners. In part, these amounts will probably be funded under some form of long-term agreement by which the principal will be reduced by annual installments paid by the railways to the government; in part, it is proposed to fund the $400,000,000 expended for new equipment by a joint equipment trust, in which the government and the railways will participate, also payable by annual reduction of principal and interest. While the final details remain to be worked out as this is written, it is inconceivable that the railways will not be allotted reasonable time and means to meet the obligations to the government which the war conditions virtually forced on them. The principal bearing of this phase of the question on the larger problem of future railway financing will, therefore, relate largely to the effect which these debts to the government will tend to have on general railway credit.

In short, there are so many uncertainties in the future of the American railways, dependent on the outcome of the legislation now pending or to be proposed, that no detailed discussion can be undertaken here as to the manner in which the financial needs of the railways are likely to be met. The amounts needed annually will unquestionably be large. If the government limits the profits of railways in the future, the amount they may devote out of surplus to new improvements will be relatively small, the great bulk coming from the sale of securities. If railway securities are in any way supported by the government, the difficulty of placing them in the hands of investors will be greatly lessened. Even if the government has nothing directly to do with the integrity of railway securities, it might provide such assurances of adequate railway income as would bring virtually the same result, although in a different manner. Whatever the method, the problem is bound to be both difficult and complicated. My own feeling is that the problem as outlined above has been conservatively stated. For example, the physical needs are quite likely to be greater than those described: 500 miles of new line are a pitifully small addition to our railway system each year, for it could easily be 5,000 without approaching the saturation point in railway construction for a long time. Again, the terminal facilities needed by the railways may alone exceed, in annual cost, the amount included in the estimate for other facilities than new mileage and new equipment. Still further, the allowance made for the increased cost of everything that goes into railway improvements, and especially for increased labor costs, is moderate. All things considered, the financial needs would appear likely to be closer to the upper than the lower of the two limits tentatively taken as a standard.

# The Unification of Terminals at New York

By Calvin Tomkins

Formerly Dock Commissioner of New York City

NEW YORK is not an organized port in the technical sense of that term, but rather a congeries of many unrelated private sub-ports which do not function together. Much of the waterfront of New York has been acquired by the public authorities, especially at Manhattan and South Brooklyn and this has been improved by the construction of docks which have been leased for long terms to private steamship and railroad interests. As a consequence of this practice there is no adequate public control exercised over the port as a whole. The separate leases are in effect monopoly franchises which are operated without relation to each other or to any general port policy.

The basic principle of port organization is that a port should be developed as a unit, under public dictation of the terms on which private carriers, shippers and consignees shall be served. The port being once conceived as an organic whole, administered by the city for the benefit of all, there can be no thought of remaining in, or returning to, the chaos of jarring private rivalry and mutual obstruction from which we suffer; or of final dependence on the makeshift policy of separate sub-ports constructed by great private corporations—no matter how perfect each may be in itself or how welcome they may be as coöperators in a city system.

The fundamental basis for port organization at New York is provision for railroad tunnel connections between New Jersey and Long Island under the Hudson and East Rivers and Manhattan Island. Such a railroad tunnel system will bring together into one general organization the New York Central Lines, terminating in Manhattan; the New England systems with their Canadian connections, terminating on Long Island; and the transcontinental systems of New Jersey.

We are accustomed to consider this break in continuous railroad transportation and the immense and costly lighterage transfer which it entails as a local defect of the port, and until recently

I held this view. Wider experience, however, incidental to the consolidation of the country's railways by federal authority discloses the fact that this problem is essentially a matter of national concern and that the dislocation of the railway communications of the country between Albany and New York, due to the Hudson River barrier, may perhaps be considered to be the major physical defect of the transportation system of the country.

With the exception of one insufficient bridge at Poughkeepsie, there are no all-rail river crossings south of Albany and as a consequence there is added to the immense local floating movement between the east and west sides of the harbor, a large and constantly increasing lighterage transfer of through freight between New Jersey and New England transportation lines, which tends still further to congest our intensively used waterfront and necessitates the diversion of docks from normal marine uses to terminal railroad requirements. If New York can ever put its railroad terminals in their proper places inshore, the city will not immediately be obliged to go to the expense of building new docks for ships, since it can then utilize the relinquished railroad docks for this urgent need.

This Port defect can only be cured by the Railroad Administration, or by the city and state of New York coöperating with the federal government to substitute an all-rail movement by tunnels for the present intermittent lighterage movement of freight. Whenever this shall be done the railroads will find it more economical and far more convenient to remove their terminals from expensive waterfront locations to inshore sites cheaper and more available for use; and the change will automatically be made. There will then be no inducement to hold on to expensive waterfront property, ill adapted for railroad uses, and the expense incident to the water transfer will be largely eliminated. Of course, lighterage is flexible, and undoubtedly will continue to be utilized at many places around the port, but the city will not be obliged to rely so exclusively upon it.

The interference with harbor transportation by ice in the winter of 1917–18 and by the strike in 1919 shows how vulnerable is the terminal situation at this port. The nicely adjusted and complex transfer of freight by lighterage includes an equipment and organization which can easily be thrown out of gear at any time at the instigation of labor leaders. The city and the general government cannot afford to stand out against a quick settlement of such strikes however unjust they may be in view of the immense loss and inconvenience which would otherwise result. There is no more reason why railroad terminals should be located at the waterfront in New York than in any other city. Tunnels are cheap to build and their practicability has been demonstrated by the Pennsylvania and McAdoo passenger tunnels. The saving which would be effected in handling freight by an all-rail movement as contrasted with the present intermittent lighterage movement, if capitalized, would be far more than sufficient to construct such tunnels and their necessary inshore terminals.

A new and most serious danger threatens the port in the possible withdrawal of the free lighterage transfer, which has heretofore been accorded the city of New York by the federal government. It is by no means certain that the government will hereafter permit the railroads to absorb the cost of lighterage. The Railroad Administration is looking about in all directions to increase the revenue of the roads, and the imposition of additional terminal charges and their separation from haulage charges affords one of the most promising opportunities for accomplishing this end.

In this connection the recent statements by Interstate Commerce Commissioner Robert W. Wooley, are pertinent and interesting. I quote as follows:

> There is only one solution of the rate problem and that is through a per mile charge for the line haul plus a terminal charge. The charge for transportation of a consignment over the railroad between the point of origin and the point of destination should be kept distinct from the charge for handling this consignment at the two terminals, because experience, investigation and long observation have proven that there is approximate uniformity of cost in most parts of the country so far as one is concerned, but that costs of the other differ widely and are not the same at practically any two points. In an investigation incident to the 5 per cent case a few years ago, the Interstate Commerce Commission, through one of its ablest examiners, went into this subject of terminal costs at four cities. At New York it was found that the expense of handling a car from the time it landed within the terminal limits of Jersey City until it was delivered to destination in Brooklyn or Manhattan, including lighterage, was approximately $85. At Chicago, where there is no lighterage, it was found that the cost of handling the same car within the terminal limits was $10.35. At Binghamton, N. Y., a city of between fifty and sixty thousand population, the cost

was $1.80, and at Salamanca, N. Y., which has a population of between five and eight thousand and is a railroad division point, the terminal cost was $3.80.

There is no difficulty about ascertaining and segregating these line-haul and terminal costs. According to the reports of the carriers themselves, made to the Interstate Commerce Commission, approximately 75 per cent of the gross receipts annually are from freight traffic and 25 per cent from passenger traffic. These reports also show, that of the total cost of operation one-third is terminal and two-thirds line haul.

From what I have just said the thought might suggest itself that New York in particular and other great cities in a lesser degree would never be able to compete with small cities and towns where only the actual terminal costs are charged. I am not so sure of that. San Francisco has municipally controlled terminals, and a flat charge of $2.50 per car for handling all cars within the terminal limits is made. New Orleans has a publicly owned belt and makes a low uniform charge. At New York—the terminal sore spot of the nation—the utter injustice of taking care of $35 per car in the line-haul rate—in other words, of making the innocent consumer over much of our land stand a tax that New York may continue to grow and monopolize the export and import business of the country —is impressing many of the big-minded citizens of our metropolis.

If the absorption of port lighterage by the railroads shall be permanently prohibited by the government, in what an unsatisfactory position will it leave the New York side of the port. This contingency should now be anticipated by promptly appealing to the Director General of Railroads to construct harbor tunnels as a necessary part of the country's railroad system, in order to correct a radical defect of the system itself. If this request shall be refused, as is probable, the city and the state of New York will then be in a better position to resist the possible action of the government in eliminating free lighterage, on the ground that the government itself is responsible for the defect in the railroad system which makes lighterage necessary. A demand can then be made with greater insistence for federal coöperation with the two states and the several cities to promote this enterprise which is so vital to the prosperity of the port.

Expensive and unnecessary lighterage is not the only danger in sight. The port is already handicapped by the following impositions or physical disabilities placed upon it by unsympathetic super-authorities:

1. The freight differential in favor of southern ports.
2. The unwillingness of the Railroad Administration to prorate freely with private canal service.

3. The apparent purposes of federal authorities to deflect freight from the port of New York to other ports, in order to avoid local congestion.

4. The deflection of traffic by the New Jersey roads to the New Jersey side of the port, in order to avoid the cost of lighterage, while at the same time collecting the fee for the service which they do not render.

5. Lack of sufficient marine facilities at the port for the pressing needs of commerce and the provision of such facilities by the federal government as a war time measure at other ports.

6. Entirely inadequate and disproportionate government appropriations for channel improvements to accommodate deep draft vessels.

New York should not passively await the breaking of the impending storm, but following the recent example of Chicago, should without delay submit its difficulties to the Director General of Railroads and demand relief. Three-quarters of the port problem everywhere is involved in reorganization and modernization of railroad terminals, which are now under federal control.

When railroad tunnel connections shall have been established between the opposite sides of the port, the separation of the port into two parts will be ended. The expensive, complicated and congested floating movement of freight between the two sides of the harbor will stop. There will be no more ice blockades or strike blockades. Freight will move directly across the Hudson as passengers now do in the Pennsylvania tubes, and the prosperity of the New York side of the port will no longer be threatened by an additional charge due to the probable action of the Railroad Administration in separating terminal charges from railroad haulage charges. Commerce and industry can then anticipate the essential factor of what should be the port's plan and policy, and the way will be opened up for private initiative to coöperate with public authorities in developing terminal facilities for the nation's commerce and the industrial needs of the communities surrounding the harbor waters, all the way from Sandy Hook to Jamaica Bay. In short the physical connection between New Jersey and New York is not a detail of the comprehensive plan, but is nine-tenths of the whole thing; and a clear statement of this simple fact should no longer be delayed.

The details of port planning and policy are complicated and when stated will necessarily arouse differences of local opinion, which it may be well to avoid at this time. But who will have the temerity to dispute the main fact, that the Hudson River separates the port into two unrelated parts and that as a consequence of this separation New York has acquired the unenviable distinction of fundamentally differing from every other great port in the world; and is in truth the most expensive great port through which to pass commodities?

One great railroad company has heretofore enjoyed a monopoly of the best opportunities on Manhattan, another on Long Island, another in the Bronx, and another on Staten Island, but the war has brought them all together into one general terminal system, the several parts of which, however, are still physically separated. Why not perfect this system while the opportunity offers by making it correspond to the essential feature of terminal unity elsewhere?

The construction of a vehicular tunnel between New Jersey and Manhattan will still leave the principal railroad terminals in New Jersey unconnected with the Long Island and Manhattan systems. Motor truck haulage will then be only less expensive than lighterage. Why not grasp the opportunity which is now presented by the liberal mindedness of the New Jersey authorities and embody in the proposed interstate treaty itself, or in a concurrent stipulation, provisions for physically connecting the railway systems of New Jersey, Manhattan and Long Island by tunnels, and by so doing end once and for all the insular disabilities of New York City by making it an integral part of the port of New York? The problem is essentially interstate in character, and the coöperation of the federal government, which is in control of the railroads, must be secured. This coöperation should be sought without delay by joint application on the part of both states to the Railroad Administration at Washington.

The good will and financial backing of New Jersey are necessary to the enterprise, and for obvious reasons can more readily be obtained now than after the vehicular tunnel shall have been constructed. The most effective way to incite New Jersey to retain exclusive terminal control of the Port by declining to coöperate to extend the rail heads to New York will be to build vehicular tunnels before jointly agreeing to build the railroad tunnels.

The Society of Terminal Engineers on January 22, 1919, adopted the following resolution in favor of the construction of railroad freight terminals:

> WHEREAS, The port of New York is the only great port in the world the two sides of which are separated by so wide a body of water as to make lighterage necessary for all freight passing from one side to the other, and
>
> WHEREAS, The expense and inconvenience due to this separation is daily becoming more onerous and apparent, as instanced by the present harbor strike and coal famine, therefore be it
>
> *Resolved*, That the cities and states of New York and New Jersey co-operate without delay to overcome the bad effects of this separation by the construction of tunnels or a bridge, or both.

The New York Board of Trade at its meeting on June 11, 1919, adopted a similar resolution as follows:

> *Resolved*, That the Federal Railroad Administration be requested promptly to connect the New York and New England Railroad systems by all-rail tunnel service under the Hudson River, Manhattan Island and the East River, with the Railroad systems terminating in New Jersey and Staten Island, since by so doing the route will be shortened, the cost of transportation between New England and Canadian points and points to the South and West will be cheapened, and the facilities of the Port of New York will be made to better serve the national commerce passing through the Port.

The report goes on to say:

> The Hudson River is a barrier between the Western and Southern Railway systems and their New England and Canadian connections. The waterfront on the New York and New Jersey sides of the Harbor, because of the floating transfer of freight, is intensively used for railroad purposes to the partial exclusion of marine commerce, and dock improvements have not been and cannot be made with sufficient celerity to keep up with the continually expanding national and local demands for both rail and water requirements.

Whatever may be the future railway policy of the United States, it is generally conceded that terminal integration will go forward and not backward; and that the railroad terminals at each city will more and more come to be administered jointly. As a consequence of this change terminal rivalries will be eliminated, and it will be much easier than heretofore and especially at New York to adopt modern methods. Railroad rivalries have till now been the principal obstructing influences to port improvement.

Under what kind of authority and form of organization the port of New York shall ultimately be organized and administered is not yet clear. The Dock Commissioner's authority under the Mayor failed. The Board of Estimate authority is too cumbersome and irresponsible. It also will break down. Both fail to provide initiative and continuity of plan and policy, which in view of the great and rapidly developing economic and international responsibilities of New York, as the world's principal port of exchange, can no longer be neglected. State control at Boston, New Orleans and San Francisco has worked well, as is evidenced by the superior organization of these ports, but I question its applicability at New York. National control at Montreal has been highly successful and the federal government here, through the Department of Commerce, can at least advantageously examine into, and give publicity to, the greatest port organization problem of the world, and so direct public attention towards a better understanding of it.

At New York and at other ports, the federal government, through its control of railroad terminals will hereafter exercise a great, if not a dominating, influence over future development. By adopting the principle in vogue at South African ports, of administering the docks, railway terminals and trans-shipment sheds at each port as an integral part of the unified railway, highway, and water system of the country, I believe that we shall obtain the best results.

The query naturally arises, since port organization has made such progress elsewhere than at New York, why has it been delayed so long here? The answer is that from the beginning of railroading, the port has been regarded as if it were to be permanently separated into two parts by the Hudson River, and on this supposition immense vested interests in terminal properties and in floating equipment have been predicated. This enormous investment will in part be prejudiced by any comprehensive organization of the port on modern lines, which will coördinate the several factors involved. For instance, a large part of the floating equipment will be unnecessary—expensive railroad location at waterfront terminals will be in large part needless since the railroads can transfer their terminals to cheaper back lands—substitution of inshore railroad terminals for railroad waterfront terminals will result in the establishment of public terminal markets and will tend to destroy the present inefficient, wasteful, monopoly distribution of food—real estate speculations and private terminal developments about the harbor will, in some cases, be prejudiced since a connected system of railway terminals will tend to make one part of the harbor as good as another for the general purposes of commerce and manufacture. In other words and as a consequence of terminal integration, an unprecedented opportunity for port development will be opened up to private enterprise all the way from Sandy Hook, through the Hudson Valley, up and down the East River and along Long Island Sound to Jamaica Bay. In short, the effect of modernizing the port will have a far-reaching influence on waterfront values comparable to that of the new subways upon real estate values in the interior of the city. It is this prospective dislocation of values and the consequent temporary disarrangement of business which has for years retarded port development in the public interest at New York. It is necessary to overcome these natural but reactionary influences, and in no other way can the much needed change be accomplished. The recent consolidation of the railroad systems makes this revolutionary process possible. In fact, it will compel the change to be made in spite of all local restraining influences—the most obstructive of which has been the smothering of popular discussion.

The pressure for additional docks for steamships has already resulted in the presentation of plans for new docks and the actual construction of some of those planned. In too many instances, however, the proposed docks are of the narrow, one story type, entirely unsuited for modern requirements which demand wide docks, with sheds two stories in height, adequate rail approach, mechanical equipment for loading and unloading, and adjacent facilities for temporary and permanent storage. It will not be easy to construct such docks at the congested center of the port, but if the railway terminal system of the port shall be coördinated with the docks, they can with equal advantage be located almost anywhere about the harbor waters.

It is so manifest that all parts of the port will be advantaged by connection with each other and with all land and water carriers, that if the New York and New Jersey Harbor Improvement Commission shall make this issue the essential part of their program, they will speedily attract public support and overcome interested private opposition to port development at New York. Physical unification of the terminal railway system of this port is the only programme for which general assent can be obtained and all other policies and proposed treaties urged in advance of this will stimulate discord and delay port improvement.

# Facilities of the Port of New Orleans

By Walter Parker

General Manager, New Orleans Association of Commerce

NEW ORLEANS, seeking to become in fact as well as in theory, the port market of lowest resistance for the Mississippi Valley, has, in ten years, done the following constructive things:

Destroyed 250,000 open cisterns in order that the stegomyia fasciata, or yellow fever transmitting mosquito, can have no place there to breed. In this way the danger of yellow fever epidemics has been completely removed. Expense involved, about $12,000,000.

Rat proofed 150,000 buildings so rats can find no breeding places. Without rats there can be no rat epizoötic and no rat fleas to transmit the disease to human beings in the form of bubonic plague. Expense involved about $9,000,000.

Caused the operation of quarantine regulations along the Gulf Coast to pass from the jurisdiction of the several states to the federal government. In this way, varying and irregular regulations against the bringing in of disease from tropical countries have been replaced by constant and wise regulations of a completely uniform character.

Built five miles of steel covered wharves along the harbor front at a cost of about $5,000,000.

Built the world's largest and most efficiently equipped cotton warehouse and terminal at a cost of about $3,500,000, exclusive of the land. It has a storage capacity of 425,000 bales, and an annual handling capacity of 2,000,000 bales. It is now being enlarged.

Built the world's most efficient grain elevator at a cost of $2,000,000; capacity, 2,250,000 bushels. It can load or unload four ships at one time. Handling capacity, 96,000 bushels per hour.

Built and equipped a complete municipal belt railroad which connects and serves all railroads entering the city, all wharves, landings, warehouses and industries. Investment, about $1,500,000.

Installed a complete and modern system of sewerage, drainage and pure water supply. Investment made and to be finished, about $40,000,000.

Abandoned the councilmanic form of municipal government, and adopted the commission form which functions as a board of directors with the mayor as presiding officer and in effect municipal manager.

Has almost finished the building of an Industrial Canal and Inner Harbor for private enterprise. This cost about $12,000,000; ultimately will cost about $25,000,000.

Caused amendments to the state constitution which exempt money on deposit, mortgage notes and steamships domiciled in a Louisiana port from all forms of taxation.

Has begun highway construction on a large scale and is now building two highway outlets to the city across many miles of wet prairies at a cost of about $50,000 a mile.

Led the people of the valley in a successful effort to bring about revived commercial use of the Mississippi River.

Spent ten years in scientific study of its industrial, commercial and port problems and sent engineers and economists all over the world to make investigations and to apply the information to the local situation.

In addition a general commodity warehouse and river-rail-ocean terminal of 1,500,000 square feet of storage space has been completed by the United States Army Quartermaster for supplying the Canal Zone. Cost, $13,000,000 exclusive of land.

Other projects under way or in process of development include:

The opening of a deep ship channel direct from the gulf through Lake Pontchartrain to the harbor, thus creating a slack water channel thirty feet deep at low tide and shortening the distance to Key West by about one hundred miles.

The piping of natural gas to the city from the newly discovered gas field at Houma, La., fifty miles away.

The completion of the Inter-Coastal Canal, extending from Florida to Brownsville, Tex., by building a section beginning at New Orleans and extending westward about fifty miles. Much of the work has been finished.

With this record of accomplishment and projects pending as a guarantee of good faith, New Orleans in January, 1919, invited the people of the Mississippi Valley to organize an association for the purpose of capitalizing a valley-wide opportunity, that of reëstablishing the north and south trade channels of low natural resistance, and the opening up of new foreign markets of great promise in Mexico, Central America, South America, Australia, the Philippines and the Orient. The association was formed at a meeting in New Orleans, and through it the people of the Mississippi Valley now are coöperating for the development of their foreign trade through greater use of waterways, their easy grade railways and their port of easiest access in reaching the Panama Canal and the world's new markets of great promise.

## NEW ORLEANS' VISION

The close of the world war brings squarely before the people of all nations many new problems. Of one sure effect of the war no man need entertain any doubt. The whole world will be more efficient in the generations to come. The burden of national debt and the tax on enterprise will force the permanent reduction of waste, lost motion and unnecessary service. The wealth accumulating ability of the privileged few will be curtailed, while the wealth acquiring ability of the many—the workers and toilers—will be increased.

Old trade routes will lose importance because old markets have lost purchasing power. New trade routes will be established because unexploited regions where natural resources exist must be developed.

New Orleans men, in their study of New Orleans' problem, gained a comprehensive knowledge of ultimate trade route changes which they were actively discounting in their development of the port of New Orleans. The great war has brought these changes earlier than New Orleans expected. Nevertheless, the work of preparation done by the city discounts them just the same. In the last analysis, the entire problem incident to the world's new trade economy hinges on economy of transportation.

## SOME INTERESTING HISTORY

New Orleans was founded in 1718 by the French, who have long encouraged community endeavor. They expected the new world city at the mouth of the Mississippi River to become one of the greatest of ports. So they dedicated the entire harbor frontage, forty-one miles, to public ownership; and the Louisiana Purchase treaty of 1803 fixed this as a permanent condition which cannot legally be changed.

When New Orleans became a part of the United States in 1803 it came under the domination of the English school of commercial thought and practice. This school is the reverse of the French school. It does not believe in communal endeavor but pins its faith to private enterprise.

Thus a serious conflict of commerce schools occurred on the harbor front of New Orleans. The conflict attracted nobody's attention because in 1803 there were neither steamboats nor steam trains and, as the flat boat and sailing ship were the only means of merchandise transportation, and labor was the lowest cost element in the city's life, nobody gave a thought to the creation of port equipment.

Later, when the steamboats came and the need arose for harbor front warehouses and commodity handling facilities the spirit of the French school of development had subsided, and the spirit of the English school, which business men of the United States were following, could find no expression because the condition of public ownership prevented private enterprise building warehouses and terminal facilities there.

At first this handicap did not matter so much because the river and the boat lines enjoyed a complete monopoly of Mississippi Valley commerce. Costs were high because facilities were lacking, and the loss from weather damage was great. But shippers in the valley had no recourse until the railroads came.

Here again the problem arose. There was no commerce except at the river towns. The drift of that commerce was up and down the rivers, and shippers knew no port market other than New Orleans.

The railroads in competition with the boats tapped all the river towns, and sought an outlet at New Orleans which valley shippers had always been accustomed to use. But they encountered the same difficulty which the boats had encountered in getting access to the harbor front and in creating the facilities they required. Years later some of the great railroad systems succeeded in a measure, but doubt, delay and lack of equipment at New Orleans during the formative period of railroad development were in a large measure responsible for a complete reshaping of the valley's drift of commerce.

At every other port the railroads received not only a welcome but an opportunity to obtain harbor frontage and create all the facilities required to coördinate the rail and ship lines.

Meanwhile the boats in the Mississippi Valley trade suffered in other directions. First, they were passenger boats, and their cargo space was limited. Expense of operating was high. Boat owners seemed unable to throw off the ground-in conviction that the trade belonged to them by old time monopolistic right, and that through bills of lading, regular schedules, conveniences of all kinds and business management developed by the railroads were innovations that should not be adopted by the boat lines.

In other words, economic railroad transportation fought uneconomic boat transportation for control, and won.

In the natural course of events, the railroads then succeeded in changing the drift of Mississippi Valley commerce from the north and south water ways and easy grade railroads to artificial east and west routes over mountain ranges.

Because of this change in the drift of commerce, under way when the Civil War began, New Orleans' commanding position in the Mississippi Valley became affected. When the Civil War ended New Orleans experienced great difficulty in readjusting her affairs and reëstablishing her commerce under the new order.

During the succeeding years natural advantage of position remained New Orleans' only great asset. More and more Mississippi Valley commerce moved by way of the Atlantic seaboard. Western Europe, nearer New York than New Orleans, was America's principal market, a fact which greatly assisted the east and west railroads in developing valley commerce in spite of the mountain grades.

With this changed drift came, of course, an east and west cast to commercial and financial thought. Even the telegraph as well as the mail system became largely an east and west affair, and in time the telegraphic news services maintained by the newspapers became largely influenced by east and west interests, and news matter possessing a north and south cast, or an interest for people occupying a region possessing common economic problems, encountered difficulty in gaining full attention and circulation.

## THE AWAKENING

In 1892 New Orleans began to fret under the loss of commerce. In 1898 New Orleans began to think; in 1905 to act, and in 1910 to understand her problems and their solution. Since then her program of accomplishment has been carried forward in the face of obstacles of which the world war, with its high cost, difficulties of finance, scarcity of labor and drain on material, was only one.

Today New Orleans has progressed so far on the road to completion that her citizens recently responded to the call of their mayor, Honorable Martin Behrman, for $105,000 in cash with which to tell the people of the country, through the advertising columns of national magazines, that New Orleans is now ready to serve the valley more efficiently and at less cost than other ports, and that the port and city are now ready to begin the growth so long predicted and so long delayed.

## FINE POINTS OF ECONOMY

The facilities which New Orleans has established and is establishing are publicly owned and operated without profit. These facilities rest on publicly owned land, and represent an enormous value because of their strategic location. In calculating the cost of her facilities, New Orleans does not take the value of the land, or harbor frontage, into consideration; consequently the necessary earning power of each facility is predicated on the cost of construction only. These properties pay no taxes, and the money used in their creation is obtained from the sale of 5 per cent forty-year public improvement bonds sold as a rule above par. The credit of the state of Louisiana is the underlying security, though the earning power of the facility itself is ample to take care of bond interest, amortization, upkeep and operation, with a margin of safety.

The port and its harbor front facilities are under the control and jurisdiction of the Board of Commissioners of the Port of New Orleans, commonly called the Dock Board, composed of five men named by the governor, who serve without pay.

The municipal Belt Railroad is operated by a Board, a majority of the members of which are nominated by the commercial exchanges of the city. The mayor is chairman of the Board.

This body, as well as the Dock Board, was created in spite of active opposition from private corporate interests. The fight for a public terminal belt began over 20 years ago. In 1900 the first ordinance establishing the Public Belt Commission was passed, and four years later the first two miles of track had been laid by a shrewd bargain with one of the very railroads fighting it.

Today it owns 60 miles of track which can accommodate nearly 2,500 cars; and by means of its spurs any industry which needs to reach river or rail terminals can do so. Freight entering or leaving the city over any railroad may be switched to the docks or to any other rail terminal at a fixed low charge for switching. It has also been extended to the banks of the Industrial Canal. Its capital stock was a municipal due bill for half a million dollars and the right to use public property as a right of way. Today it possesses a borrowing and financing power of its own, and expects to invest millions in a bridge over or a tunnel under the Mississippi River. It recently spent $50,000 to determine whether a bridge or a tunnel would serve the city's interests best.

Because of public ownership of the land along the forty-one miles of harbor front, land worth probably $10,000 an acre on the average, some remarkable aids to commerce and industry are effected.

## THE COTTON WAREHOUSE

This facility represents a cash outlay of $3,500,000. It stands on 100 acres of river front. Most of this land was created by pumping silt from the river and building up the low banks above high water mark. The warehouse and terminal are equipped with every practical device for the saving of time and money. It has three great extra density compresses through which the compressed bales from the interior pass and by which the bales are reduced to about half the size of the ordinary compressed bale, or to about one quarter the size of the ordinary plantation bale of commerce. In this way a great saving in ocean freight rates is effected, amounting sometimes to as much as $3 a bale.

All of the trucking is done by electric trucks. In this way one man can move ten and even twenty bales to or from any part of the warehouse. With hand trucks, the ordinary way, one man can move only one bale.

The warehouse is divided into air-tight, fireproof, sprinkler equipped compartments, each of a capacity of 1,600 bales, or 800 bales to the tier. Through the use of a simple device called a "bale puller," which is operated by the conveyor operator above, any bale anywhere in the pile can be extracted in a few moments without injury and without disturbing the pile. In this way the great economy of piled storage and the great efficiency of single bale storage are gained.

In ordinary warehouses a piling and unpiling fee of twelve cents a bale is charged. This fee is saved in the New Orleans warehouse.

Warehouse receipts against cotton stored in the New Orleans warehouses are issued by the state. The New Orleans Cotton Exchange Inspection Bureau, which maintains a large cash guaranty fund, inspects the cotton and issues a certificate showing grade, staple, weight, class and condition. These two pieces of paper outstanding against a world-used, hedged commodity stored at rail-boat-ship side at a strategic point of primary distribution and export, forms the highest character of bankable collateral. With it cotton handlers are now able to obtain very low cost money on either demand or time loans. Ultimately, when New Orleans system is more completely developed, large handlers of this collateral should be able to use it as collateral against call loans derived from surplus monies lying idle in any part of the country or the world.

The same relative degree of efficiency in the handling and financing of grain has been provided and soon will be provided for coffee, sugar, lumber, rice, coal and general commodities.

## INDUSTRIAL CANAL AND INNER HARBOR

Because public ownership of the harbor front prevents free play on the water front to private enterprise, auxiliary water frontage had to be created to encourage private capital to invest in great industries, warehouses and other enterprises in New Orleans requiring water front sites where railroads, boats and ships can be brought into close coördination with production and storage.

The problem presented was a large one. Years were spent in study, other years in securing an amendment to the state constitution, still other years in engineering surveys and research.

In February, 1918, the time to finance and begin work on the canal came, and the New Orleans Association of Commerce called an executive conference of financiers, city officials, state officials and engineers. One month later, plans for the financing of the project had so far matured that the New Orleans banks offered to advance the money needed for construction, their reimbursement to come when the bond issues could be prepared and sold.

Meanwhile, in anticipation of this outcome, several of the world's largest dredges had been obtained and held in readiness, and within one week after the completion of the preliminary financial arrangements four giant dredges were at work.

General George W. Goethals, builder of the Panama Canal, is building New Orleans' Industrial Canal and Inner Harbor. The project will be completed within a year.

Dimensions of the canal are: Length, 5¾ miles; width, 300 feet; depth in extreme low water, 30 feet. The great lock at the Mississippi River end of the canal will accommodate a ship 74 feet wide, 700 feet in length, and drawing 30 feet at extreme low water. Ninety-nine per cent of the time there will be 35 feet of water on the sill.

An industrial strip of land 1,000 feet in width on either side of the canal and extending its entire length is owned by the public. Under the law this can be leased to industries or business enterprises for any period up to ninety-nine years on very favorable terms. The municipal Belt Railroad now connects or will connect with all the sites.

Extensive shipbuilding enterprises already are established on the canal, and seven great steel ships are being constructed under a guaranty by the Dock Board that a channel to the sea will be ready when they are launched.

This is probably the first case on record where ocean going shipbuilding, involving enormous outlay for shipbuilding plants, began in the center of dry land, with navigable water nearly two miles away. The dredges are ahead of their schedule and the channel was ready a month before the first ship was ready for the water. One of these plants is a French government project, the other is a United States Shipping Board project.

## HIGHWAY CONSTRUCTION

Because the city is surrounded by navigable water and by wet prairies, New Orleans, is practically, an island. Highway construction into and out of the city has presented some big problems. In April of this year money was raised with which to construct two 365-mile highways leading east and north from the city across wet prairies. These highways will cost about $50,000 a mile, exclusive of a number of very costly bridges over wide deep streams.

Early this year the financing of a paved highway extending along the Gulf Coast from New Orleans to the Texas border was completed, and the financing of a paved highway extending from New Orleans to Baton Rouge and Shreveport was practically completed.

Over these four great highways twelve national and international highways will reach the city, including one to Winnipeg, Canada, now more than 60 per cent complete; another to Nashville and Chicago, another to Jacksonville, Fla., and still another to Los Angeles.

Now that the money is in hand, New Orleans' four trunk highway outlets will be completed without further delay.

## VOCATIONAL TRAINING

Industrial development, as a result of a port improvement, is now very marked in New Orleans. Throughout the spring of 1919 when many sections were reporting idleness, there was a full demand for skilled and unskilled labor in the city, with a greatly increased demand in sight. For this reason it is fortunate that the city government has a bequest of nearly $1,000,000 for a great vocational school, which will be begun before the end of 1919.

## ORGANIZED COMMERCIAL ENDEAVOR

Realizing that the city's development required careful and expert leadership, the business men of New Orleans reorganized a struggling progressive union or commercial club into a modern Association of Commerce, with 4,500 of the leading men of the city as members, and put it to work on a city plan, on domestic and foreign trade development, on good roads promotion, and in organizing the Mississippi Valley to make a concerted effort to redevelop the north and south channel of trade.

The building of the Industrial Canal and Inner Harbor is one of the outstanding results of the work of the New Orleans Association of Commerce. The building of the New Orleans-Winnipeg Highway is another.

Amendments to the state constitution which exempt money on deposit, mortgage, loans, and ships domiciled in a Louisiana port from taxation are other samples of the vision and constructive work of this business men's organization.

Wet lands around New Orleans are being drained and used for the production of corn, vegetables and other food stuffs, and the New Orleans breweries are being changed into dehydrating plants for the reduction of these food stuffs into an imperishable form.

The state owns 400,000 acres of oyster bottoms; and some day these old breweries which are being turned into dehydrating plants will be reducing Louisiana's oyster flour and selling it in barrels and packages as one of the staple foods of the country. New Orleans believes its breweries can help more by becoming dehydrating plants than by becoming soft drink factories.

While New Orleans' new facilities are not all complete and in working order yet, the beneficial effect of what had been done is best shown by the increases in foreign trade and in bank clearings as follows:

| | *Imports and Exports* | *Bank Clearings* |
|---|---|---|
| 1890 | 122,785,054 | 528,883,431 |
| 1900 | 133,349,575 | 556,690,000 |
| 1910 | 216,358,440 | 987,491,234 |
| 1913 | 261,176,635 | 980,083,893 |
| 1917 | 435,981,894 | 1,968,023,811 |
| 1918 | 524,255,286 | 2,660,460,335 |

# Efforts of the Port District of the Port of Seattle to Own and Operate a Public Belt Line

### By Robert Bridges

Commissioner of the Port of Seattle

THE Port of Seattle is a municipal corporation created under a state law commonly known as the Port District Act. The purpose of this law was to enable the creation of separate municipal corporations whose object was to develop the natural ports and harbors of the State of Washington. Such Port Districts were empowered by the Act

> to lay out, construct, condemn, purchase, acquire, add to, maintain, conduct and operate any and all systems of seawalls, jetties, wharves, docks, ferries, canals, locks, tidal basins, and other harbor improvements, rail and water transfer and terminal facilities within such port district.

The Port Commissioners of the Port of Seattle early took the position that the power "to lay out, construct, condemn, purchase, acquire, maintain, conduct and operate *rail and water transfer and terminal facilities*," conferred upon the District the power to construct and operate a belt line railway paralleling Seattle's waterfront, connecting up, and serving with rail facilities the various piers, docks and other harbor terminals.

The necessity of such a public belt line was recognized because the railroads had divided the city into some 12 or 13 switching zones, each with a separate switching charge. Furthermore, the four leading railroads may be said to have divided Seattle's harbor into at least three sub-ports or spheres of influence. The Northern Pacific Railway, being the oldest road, controlled by its franchise grants the central waterfront, being that part of the harbor adjacent to the older and more highly developed business of the city. The Great Northern Railroad dominated the situation northerly of the central waterfront, and particularly in what is known as the Ballard and Interbay districts. The Milwaukee, Oregon & Washington in turn controlled sections in the southern portion of the city.

The common user provision in the several franchises of the respective railways had not been availed of because of various complications which prevented the common use intent, such as lack of adequate physical connections, separate ownership of spur tracks, exclusive agreements of certain railroads with dock companies as to access to docks, etc. The result was a pyramiding of switching charges and delays in interchange between the railways. Comparatively low switching charges were made in the central business district, but to switch a car to any of the newer industrial districts lying outside of the central territory, switching charges had to be paid to two and sometimes three railroads. This resulted in discouraging large companies from establishing their industries outside of the central zone, and tended to place an artificial value upon industrial territory located within the central zone. Smaller industrial concerns, which had to buy cheaper sites and therefore located outside of the central territory, were placed in a most unfavorable situation through the high switching charges. Because of this situation, many favorable industrial locations within easy reach of the waterfront and the central business district were retarded in their development. Smaller industries preferred to locate in smaller cities in the vicinity of Seattle rather than be subjected to the high switching charges and to the delays and inconvenience incident to interchange between several competing railroads. In the year 1914, the Port Commission obtained from the City Council of the City of Seattle two franchises on Whatcom Avenue extending through a section of Seattle which was rapidly becoming the most important industrial section.

On December 4th, 1915, the Commission submitted to the voters at the general Port District election, two propositions:

> (I) Amending the Comprehensive Scheme of Harbor Development to include a Belt Line Railway extending from the city limits on the south paralleling the Duwamish Waterway to a point on Elliott Bay, and then extending Northward along the waterfront streets paralleling Elliott Bay to the extreme Northerly end of Seattle's harbor proper.
>
> (II) For $125,000.00 of Port District Bonds to build the First Unit of the Belt Line, namely, that included within the franchise already obtained.

In order to make any harbor development, the plan therefor must be approved by a majority vote of the people and then it becomes a part of what is known as the Comprehensive Scheme of Harbor Improvement.

Notwithstanding a most vigorous campaign against both of the propositions by the two leading daily papers, the Amendment to the Comprehensive Scheme of Harbor Development, providing for the inclusion of a Belt Line Railroad was adopted.

The $125,000.00 bond issue failed to receive two-thirds of the votes of the people voting thereon, which the law requires for adoption of a bond issue. It received, however, a substantial majority, only falling short a small amount of the requisite two-thirds vote. On March 7th, 1916, the Port Commission called a special election held simultaneously with the general city election of the City of Seattle, and presented a second bond issue for a Belt Line in the sum of $285,000.00. This included a larger unit of the total Belt Line as planned in the Comprehensive Scheme that had been adopted December 4th, 1915. Thirty-three thousand nine hundred and eleven voters voted in favor of this issue; 24,635 voted against; the issue again failing by a comparatively few votes of receiving the requisite two-thirds. On December 2nd, 1916, the Commission submitted a third bond issue for a Belt Line in the sum of $450,000.00. This made provision for a Belt Line extending from the southerly limits of the city along the waterfront to the northerly boundaries of Seattle's developed harbor. This issue also failed to receive the requisite two-thirds vote. On the 6th day of March, 1917, at a special election held simultaneously with the general city election of that year, the Port Commission submitted a bond issue in the sum of $450,000.00 for a Belt Line covering practically the same as that proposed in the election of December 2nd, 1916.

This issue failed to obtain the majority vote of the people. This was not due, however, to a reversal of sentiment on the part of the majority who had voted first to include in the Comprehensive Scheme of Harbor Development a plan for a Belt Line Railway, and thereafter three times in favor of bond issues to construct such a Belt Line. The vote of March 6th, 1917, was a reflection of the people's feeling that our country was about to enter on the World War. Several city bond issues for needed improvements were presented at this same election, all of which failed because of the feeling on the part of the people that money should not be voted for public improvements on the eve of our entrance into the war.

In view of the fact, the electors of the Port District had voted to include a Belt Line plan in the Comprehensive Scheme of Harbor Development, and of the further fact that a majority of the voters on three occasions had voted favorably upon bond issues to construct a Belt Line, the Port Commission on May 23rd, 1917, passed a resolution establishing a Belt Line Railway Fund. By this resolution, the Port Commission devoted for the construction of a Belt Line, revenues amounting to about $20,000.00 a year, which the District received from various leaseholds. On June 30th, 1917, the Port Commission adopted a second resolution providing for the immediate construction of railway tracks extending approximately two miles and a half along the Duwamish Waterway, appropriating for this purpose, the sum of $16,000.00, at that time, in the Belt Line Railway Fund.

The Duwamish Waterway is a public waterway extending some six miles from Elliott Bay through the heart of a new and largely undeveloped industrial district. The waterway is paralleled by a street known as East Marginal Way, and on this street, the Port District had a franchise. While the area tributary to the Duwamish Waterway was one of the best prospective industrial sections of the city, its development had been held back because it lacked railway facilities. The property owners for several years had sought to get the railway companies to build a road into this territory without avail. It was due primarily to these facts that the Port Commission passed the two resolutions of May and June, 1917, mentioned above. There was a crying necessity for railroad facilities in this district.

The Port Commission was about to commence work to construct the road provided for in the June resolution, when an injunction suit was started. This suit raised the question of the power of the Port District to own and operate a Belt Line Railway paralleling the harbor and connecting up the various docks and terminal facilities thereon. The suit was originally started by a taxpayer, but immediately after its commencement, a second taxpayer intervened. It soon became apparent that this second taxpayer was acting in reality for the railroads because all of the railroads' attorneys appeared on his behalf. The trial court held that the Port District Act did not confer the power to own and operate such terminal railways. An appeal was taken to the Supreme

Court of the State, and the Supreme Court sustained the judgment of the trial court. Counsel for the Port District challenged the railway attorneys and indeed, challenged the members of the Supreme Court to give a meaning to that part of the Statute, which empowered Port Districts to maintain, own and operate "rail and water transfer and terminal facilities." Counsel for the railways were unable to give anything but a ridiculous meaning to those words of the Statute. The Supreme Court in its opinion practically eliminated the words from the Statute entirely. It was one of many cases of judicial infringement upon the legislative branch of the government. Judicial legislation, however, is now so frequent that it has almost ceased to be a source of comment.

Anticipating that the Supreme Court would rule against the power of the Port District to own and operate a terminal railroad, if the court could find a single peg upon which to hang its judicial hat, the Port Commission caused to be introduced in the 1917 Legislature, an amendment to the Port District Act. This amendment was so framed that if passed by the Legislature, the courts could not defeat the legislation intended. The railways, however, were able through their representatives in the Legislature, to prevent the passage of this bill. The Port Commission while temporarily frustrated in the plan to own and operate a Belt Line Railway, are still hopeful that the next Legislature will empower Port Districts to own and operate such terminal railways.

The fight which the Port Commission of the Port of Seattle made to obtain a Belt Line has not been, however, without beneficial effects. A direct result of the Port Commission's attempt to construct a railroad on East Marginal Way was the immediate building of a railroad on this street by the O.-W. R. & N. Co. As a result of the construction of this road, many new industries including several new shipyards, which sprung up as a result of the war, located in this district. Without railroad facilities, these industries could not have located in the district and it is doubtful if they could have found suitable locations anywhere in the city. Furthermore, the fight for a Belt Line Railroad by the Port Commission, brought to the attention of the people the many deficiencies in the methods of operation by the railroads and a number of the worst practices of the railroads have been eliminated. The unified control of the United States Railroad Administration also assisted in bringing this about, but it was the campaign of education carried on by the Port Commission which created a public opinion demanding the reforms obtained.

*State ex rel Huggins* v. *Bridges*

97 Wash. 558, 559

The separation of the powers granted into, (1) the owning, maintenance and operation of a system of harbor improvements, and (2) the owning, maintenance and operation of rail and water transfer and terminal facilities, seems to us to do violence to the plaint intendments of the language and to grant a power by inference, viz., the power of operating railways not expressly granted by the legislation and clearly not to be implied.

We are asked by appellants to define what is meant by the words "rail and water transfer and terminal facilities." It might be answered that it is sufficient to determine what powers are granted this municipal corporation by the clear intendment of the act or by necessary inference, and that nowhere is it granted the power to construct, operate and maintain railway lines, either terminal, belt, or otherwise, and to act as such a common carrier. But we conceive that the language referred to simply means such adjuncts and appurtenances as are necessary or convenient for the trans-shipment of commodities between land carriers and water carriers. Such facilities may include a spur track or switch to a dock, pier or warehouse, and they may include the connecting track between two docks or piers or warehouses of the port commission, for its convenience. If we construe the language as contended for by appellants, instead of reading rail *and* water transfer and terminal facilities, it should be read rail *or* water transfer, etc. When the legislature has used precise words and used words which subsequent portions of the act and amendments thereto imply were the exact words meant to be used by the law-making power, it is not the business of the court to substitute words, even such a small word as "or" for "and." *Black, Interpretation of Laws* (2d ed.), p. 231.

We are convinced, therefore, that the appellants have not been granted the power proposed to be exercised by them. The judgment is affirmed.

# True Cost-Finding—What It Can Do for the Railroads[1]

By Morris Llewellyn Cooke
Consulting Engineer, Philadelphia, Pa.

NO uniform system of cost-finding has ever been nationally applied to American railroads. One is tempted to make this statement much stronger and say that on no American railroad is there to be found a system of cost-finding comparable to the better systems in vogue in other industries. Such cost-finding would improve efficiency and service, reduce expenses, furnish a scientific basis for freight and passenger rates, inspire public confidence in the management, and ultimately bring about standard operating methods. The cost factor is the best measure of performance known, regardless of whether the performance desired be war-making capacity, reasonable freight or passenger rates, economy in labor or material, returns on the dollar invested, or any other.

## Existing Fallacies Regarding Cost-Finding

In discussing the problem of cost-finding there are three fallacies which must first be cleared away:

1. The fallacy that confuses statistics with costs—the great mass of operating statistics pertaining to railroads have little bearing on true costs.

2. The fallacy that it is difficult to apply cost-finding to railroad operations, and that a national standard would upset present management.

3. The fallacy that cost-finding is purely a money-saving proposition.

1. The United States Railroad Administration has already installed a system of uniform operating statistics, through its Division of Operation which is described elsewhere in this volume. This seems to be admirably designed but the reports show in

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[1] This article in some what different form appeared in the January (1919) issue of Industrial Engineer. It is reproduced here with the permission of the editor of that publication.—The Editor.

averages and ratios only the extent to which present facilities are used. They call attention to equipment capable of better use. They also provide for some accounting information of a general nature, valuable as a general survey.

True cost reports would trace every item of expense to its place in a unit of operation or service. Each unit of expense could be analyzed in terms of maintenance, labor, material, administration, construction, etc. Cost-finding methods would not only be uniform on all railroads under the centralized administration, but there would be the same cost terminology. Uniformity would enable those at interest to trace differences in cost to real causes without time-consuming investigations.

For instance, in any unit of cost the general item "Maintenance" might be subdivided into:

(a) Tracks and roadway.
(b) Rolling stock.
(c) Terminals.
(d) Power stations, etc.

Any of these items might be further subdivided one or more times to whatever extent the data may be useful or desirable. To illustrate, the first item—the cost of maintenance of tracks and roadway—might be expressed both as totals and in terms of units under some such head and subheads as the following:

Cost of ties
Cutting timber
Creosoting
Hauling
Placing in roadbed
Leveling
Cost of rails
Cost of finished rails, delivered at warehouse
Delivery to point of use
Laying rails
Riveting
Spiking, etc.

2. A uniform cost-finding system should not interfere with present railroad routine, for a national standard would be developed as a matter of growth rather than the adoption of a ready-made system. One or two typical railroads could be chosen to carry on the work during the development stage. No general announcement need be made. The introduction of such a program should be slow and gradual.

3. Scientific cost information almost invariably brings about economies because it directs attention to abnormalities. Money

saving is important. But accurate cost statistics are even more valuable as a foot-rule for measuring efficiency. During a war, for example, service is more vital than economy. Yet even in the midst of war accurate cost data will indicate wastage of man-power, of materials, of equipment, etc., our war-making capacity being more important than economy, at such a time, accurate data improve war-making capacity.

## WHAT COST-FINDING CAN DO AT THIS TIME

The Government has now absolute control of railroad operation. It desires to operate as efficiently as possible, for public service. There is an unusual opportunity to establish cost-finding—an opportunity quite unlikely to occur under private control. Private railroad management is governed by policies regarded as of immediate importance to the particular railroad, or system, or group of financiers, or stockholders. Competition between railroads formerly made broad standardization of cost methods difficult.

Railroad rates have been the subject of interminable disputes in the past. The public believes that freight and passenger rates are either too high or out of balance. Railroad officials under private ownership have been convinced that rates were neither justly nor scientifically computed. Such disputes have been based largely upon general railroad statistics, instead of accurate cost information. Very often they have revolved upon mere statements of opinion, or broad generalizations incapable of demonstration. Between the public and the railroads the Interstate Commerce Commission has arbitrated, but without accurate cost data as an irrefutable basis for decisions. Uniform cost methods would make rate decisions very largely a scientific process, eliminate much of the argument, and more nearly satisfy both sides in the disputes.

Accurate detailed cost data almost invariably lower expenses and prices in other industries. They should lower railroad rates and give more favorable prices for American goods in foreign markets. In view of the large merchant marine now being built this is an important consideration.

Furthermore, it is important that public confidence in railroad operation whether operated by the government or private interests be firmly established. Accurate cost-finding is such a vital element in modern industry that the public will expect this phase of good administration.

As Mr. Cunningham has pointed out in his article on railroad statistics the Interstate Commerce Commission has already very fully carried out the instructions of Congress in the matter of establishing uniform accounting methods on American railroads. When it comes to developing adequate cost-finding methods, however, it will probably be discovered that a somewhat different basis for railroad accounting will be the outcome, enabling the taking off of special reports and the making of special statistical inquiries with a fraction of the trouble now involved. These special reports are now a well-nigh maddening part of the duties of railroad accountants. Under private operation and Federal regulation they would become even more of a nuisance than at present. Hence the railroad world will welcome any improvement in the technique of accounting methods which will yield special data and information more readily than under the present system.

Fortunately we can point to one concern[1] which has in use on certain utility properties which it operates, a very satisfactory system of cost-finding, which in its main features and more especially in its mechanism might easily be adapted to steam railroad use.

## HOW COST-FINDING CAN BE APPLIED TO THE RAILROADS

The first step is to make a careful study of all previous attempts at cost-finding on railroads, as well as similar public utilities. These attempts have been isolated. Preference should be given to cost systems in successful operation. Both the systems and their methods of installation should be reduced to standards which are approximately correct, and will not interfere at all with operating efficiency. This will give a basis for introducing a tentative system on one or more important railroads, and extending the systems as fast as perfected, to the extent that may be desired.

Some of the obvious ends to be accomplished are:

(a) Comparisons between different railroads of actual ton-mile, train-mile and car-mile costs, subdivided into component parts.

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[1] Day & Zimmerman, 635 Chestnut Street, Philadelphia, Pa.

(b) Comparisons of similar costs between various sections of the same railroad, and between railroads covering same territory.

(c) Comparisons between groups of commodities handled on the same railroad, and between two or more railroads handling the same commodities.

(d) Comparisons between various kinds of service (car-load lots, less-than-car lots, terminal facilities, switching facilities) on the same railroad and between two or more railroads, of costs of the same service.

(e) Comparisons between costs of operating various kinds of equipment (steel gondolas, wooden cars, cars of various capacities, freight trains, mixed trains, special trains, etc.) upon the same railroad; and between two or more railroads upon the same kind of equipment.

(f) Comparisons of special elements of costs, such as direct wages, direct materials, direct expenses, as well as indirect or overhead charges (both before and after allocation) on the same railroad, as applied to the information indicated in (a), (b), (c), (d), and (e).

(g) Separate costs of construction, operation and maintenance and comparisons of the subdivisions of these costs somewhat as in the following illustration, taken from the records of a company now employing a comprehensive cost-finding method:

OPERATION COSTS

| | 1917 | 1918 |
|---|---|---|
| General | $.0286 | $.0283 |
| Transportation | .0906 | .0843 |
| Distribution | .0004 | .0003 |
| Traffic | .0005 | .0008 |
| Production | .0786 | .0445 |
| Roadway | .0018 | .0016 |
| Transmission | .0022 | .0021 |
| Total cost per unit | $.2027 | $.1619 |

MAINTENANCE COSTS

| | | |
|---|---|---|
| General | $.0001 | $.0002 |
| Transportation | .0111 | .0092 |
| Distribution | .0020 | .0016 |

| | | |
|---|---|---|
| Traffic | $.0042 | $.0034 |
| Production | | |
| Roadway | .0149 | .0114 |
| Transmission | .0002 | .0004 |
| Total cost per unit | $.0325 | $.0262 |
| Grand total cost per unit | $.2352 | $.1881 |

(h) The arrangement of the foregoing analyses in such a manner that differences in costs are easily detected by those who use the data.

(i) Original records maintained in such form and in such detail that the information they convey can at any time in the future be assembled by machinery to produce whatever class of cost statistics may be desired without an exhaustive and costly investigation. Thus, in addition to such cost reports as may be required at regular periods, it would be a simple matter to make any kind of special cost analysis by machine, cheaply, at a moment's notice.

To produce the comparative cost statistics above indicated, it is necessary that the cost-finding systems include the following features:

Inclusion of each item of cost applicable to a given period of time, whether represented by current outlay of money or by the comsumption of material, equipment or service paid for during a previous period, or to be paid for during a later period. Thus the cost of hauling a car-mile of a given class of commodity over a given section of track, would include not only every cent of direct wages, direct material and direct expense applicable to the particular period under review, but would include also its proper proportion of interest charges, maintenance of way charges, equipment, depreciation, equipment repair expenses, general expenses, etc. The situation would be analogous to that of an automobile manufacturer, for example, who is in a position to know the exact cost of an axle or a differential or of a thousand small bolts of a particular description, etc.

The method of recording costs must be uniform, to avoid the distortions which might take place were the decision as to how any particular element of costs is to be classified left to the discretion of each individual railroad statistician.

For similar reasons, terminology must be standardized upon all roads—a descriptive name must mean the same thing wherever and by whomever it is employed.

The system should be elastic, in that it would permit periodical expansion and detailed analysis of particular phases of costs which are not normally of current interest because they would not vary materially from one period to another. Some of the comparisons mentioned under (a), (b), (e), and (f) above, would only be made at intervals as may be expedient. The corollary to this expansibility would be easy contractibility. As quickly as the information sought has been produced, the work should revert to its current form without having caused any unusual disturbance.

The structure of such a uniform system of cost-finding necessarily would be the result of careful study of all the factors involved in the situation. In general it would rest upon the accurate recording of each detailed expenditure in such a manner that the record could be easily assembled with others of like character, eventually finding its way through a series of assortings and further assemblies into its proper niche. It is possible through the use of various mechanical devices to reduce nearly all the work to machinery. Electrical assorting and tabulating machines, such as used by the Census Bureau, are essential factors in such work. Mechanical devices reduce almost at once the existing cost of performing work of this kind. They should not be regarded as additional items of expense.

Unfortunately in the past railroad men as a rule have been rather pessimistic both as to the possibility of securing costs and as to their utility even if obtained. Thus in a rate case before the Pennsylvania Public Service Commission, these two typical expressions of opinion by representative railroad men appear in the testimony:

Theodore Voorhees, President, Philadelphia & Reading Railroad:

> You cannot get at the cost of any item of railroad service. . . . It never has been done. I do not believe it ever will be done.

Robert H. Large, General Coal Freight Agent, Pennsylvania R. R.:

> You can't take into consideration the cost of the service for two reasons. In the first place, you can't ascertain the cost. That is practically impossible, in freight traffic between commodities.

Fortunately, the whole attitude of the railroad world is changing and it is coming to be recognized that in many respects railroad costs are easy of ascertainment, as compared with industrial costs. Certainly once obtained they will be quite as useful.

The entire subject of course has been before the railroad world for years past. Mr. Louis D. Brandeis—now Mr. Justice Brandeis—in his book *Business a Profession,* says:

> The first step in applying the principle of the sliding scale to railroading must be, however, to devise means of determining degrees of efficiency and that involves determining the unit cost for each operation on each railroad. Unless costs are so ascertained, no true measure of efficiency can be arrived at. The knowledge that the average annual cost per locomotive for repairs, renewals and depreciation on one railroad is $3,832.37 and on another is $2,709.27 would be a very unsafe ground for determining the relative economy of operation on the two railroads. The conditions on the two railroads and the standard of renewal and depreciation may vary so greatly that the company expending the greater sum may actually have conducted its locomotive use and repairs more economically and efficiently that the railroad expending less. We must reduce each operation to its ultimate unit and ascertain the cost of that before a proper basis of comparison can be secured. We must learn not merely the cost of turning a wheel of standard size and character, the cost of laying a tie or rail under standard conditions; but even these relatively simple operations must be again analyzed and separated into their component elements before a safe basis of relative costs can be arrived at.
>
> The fact that railroads are subject in their accounting to the orders of the Interstate Commerce Commission makes it possible to require that each company should ascertain and report to the commission the ultimate unit costs of each operation in each department of the railroad. The further fact that the railroad business is largely non-competitive, makes it proper to publish these costs and to give to each railroad the benefit of knowing the lowest unit cost of each operation attained by any railroad and how it was attained.
>
> To aid in this work the Interstate Commerce Commission should establish a Bureau of Railroad Costs by which the ascertainment of costs may be supervised and the results analyzed, classified and compared. Knowledge of the best methods would thus become the common property of railroad men. That alone would lead directly to great advances in efficiency and economy. But the adoption of the best existing methods would be merely the beginning of the great advance. The ascertainment of the lowest existing costs would inevitably be followed by widespread striving to eliminate further waste of time, effort and material and to find ever better methods. With the introduction of exact tests of efficiency, with the establishment of dependable standards of comparison,

railroad operation would soon develop into a recognized profession; and those who pursue it would be stimulated like scientists and engineers to ever higher achievements.

The amount of progress which has been made in this matter of cost-finding on the railroads during the last ten years does not encourage one to hope that any line of action which it would be wise for the United States Railroad Administration to adopt just now would lead immediately to any broadly satisfactory or final solution. A development of this character in railroad administration should preferably, of course, be very largely the result of work originating at a number of different points. It is entirely proper, even necessary, for the top to direct, to guide, and to inspire. We have the right to expect that any centralized control or regulation of the railroads should express a deep concern as to railroad costs and at least to coördinate the procedures which will ultimately give us accurate railroad costs. But any such steps taken in Washington must needs be supplemented by a corresponding interest on each individual railroad. No railroad can by itself hope to set the standard for the country. Coöperation is as inherent in the development of cost-finding methods as in anything else. But it will be a very difficult if not impossible task for the United States Railroad Administration or the Interstate Commerce Commission to scheme out an adequate system of cost-finding methods in the absence of a widespread interest in the matter among railroad executives. In other words, either the Railroad Administration or the Commerce Commission must, and undoubtedly will, take the lead in this matter, but in the accomplishment of any worth-while result the help of all forward looking railroad men will be required.

# Women in the Railroad World

By PAULINE GOLDMARK
Manager, Women's Service Section, Division of Labor, United States Railroad Administration

WOMEN in railroad service are no longer the novel sight they were during the war-time emergency. The high water mark of their employment was reached in October, 1918, when their number totaled over one hundred thousand in all classes of work. In the nine months since the armistice there has been an appreciable falling off in numbers, the causes and significance of which must be studied in the light of present tendencies.

## INTRODUCTION OF WOMEN INTO RAILROAD SERVICE

In order to secure a full understanding of women's place in the railroad world it is necessary to discuss the various phases of their introduction. According to the statistics of the United States Railroad Administration, Women's Service Section, the number rose from 61,162, January 1, 1918, to 82,370, July 1, and 101,785, October 1. This was an increase of 66 per cent in a period of nine months. Nor does this fully measure the change. As early as the spring of 1917, women had begun to make their appearance on a number of roads increasingly.

At that time far sighted officials saw that an urgent need of labor would develop as the war progressed and insisted upon women being placed in many new positions. It took many months to overcome the long established prejudice on the part of railroad men against the employment of women. It was only after our entrance into the war, and especially after the first draft, that the process of introducing women began to be speeded up, accelerating every month until after the armistice. The process gained such headway that women finally constituted as much as 50 per cent of the forces in the general offices of many railroads. Officials generally admit that at this critical time, when a literal break-down of the office forces was threatening, the women saved the situation. Many were wives and sisters of men in military service who turned to railroad work as a means of livelihood, and many no doubt were animated by patriotic purpose to serve their country at a time of need.

## CHARACTER OF WORK DONE

Coming now to the character of work done by the women, statistics show that by far the larger proportion, namely 70 per cent, went into clerical work. This class includes not only stenographers, typists and machine operators, but also clerks of all kinds, ticket sellers and accountants. These employees were located not only in the general office buildings in cities and towns, but were scattered all along the line in the smaller offices of shops, road and yard masters and engine houses.

The publicity given to the new and unusual forms of work done by the railroad women, apparently gave rise to the general impression that the majority were employed in these occupations. It is true that many were taken on in positions never before held by women and that they helped very substantially during the war in performing these duties, but the total number so employed is slight compared with the clerks. In the shops, for instance, at the time of maximum employment, women formed only 5 per cent of the total; in the signal service, including telegraph and telephone operators handling train orders, there was another 5 per cent. In the round houses and in track work there were only 1 per cent.

These occupations are indeed of great interest because they show the capacity of women to enter successfully into new fields. Besides being employed as laborers in the shops, the women were put at various kinds of machine work and trained as electrical welders, air-brake repairers, hammer operators, crane operators, molders, etc. In the round houses they wiped engines, operated transfer tables and did general laborers' work. In outdoor jobs they came to the attention of the public especially as track laborers and crossing tenders.

If the war had continued longer and the labor shortage become more acute, there would no doubt have been a great extension of these forms of work. But apart from the time and attention necessary for training women, there are practical difficulties in making place for them, especially in the shops and yards, because of the lack of proper physical conditions. It was exceedingly difficult, for example, under war conditions, to construct the new dressing rooms, toilets, etc., that were necessary. The employment of women in these positions did not last long enough to test out the effect on their health and general welfare. It is not yet clear whether they can be retained in such service without injury. Some occupations are without doubt unsuitable, especially for the young girls who eagerly applied for them. The Railroad Administration discontinued the employment of women as section laborers, for instance, and as truckers in depots and warehouses on account of the extraordinary physical exertion required. It was greatly to the credit of the Administration that these excessively taxing forms of work were abandoned early in the fall of 1918 when the fear of a labor shortage was most pressing and that a way should have been found to supply the necessary man power.

## WAGES

The chief attraction which drew women to the railroad service undoubtedly lay in the wages offered. The orders of the Administration, for instance, established a minimum of $87.50 monthly for all clerical work, or $1,050 a year. This was far above the rate of pay then prevailing for similar jobs in other businesses, and was, indeed, an extraordinary opportunity for young girls in small towns who had been working for $10 or $12 a week. In cities the difference between railroad wages and outside business was not so great. In fact, in a number of centers the railroads complained that even under the new wage orders, girls left the service for higher salaries, instancing especially comptometer operators who found positions with banks.

In the shops most of the more skilled women were in the ranks of the "helpers," and were paid the specified rate of 45 cents an hour. This, as well as the cleaner's rate of 35 cents to 40 cents, depending on locality, was eagerly sought, as these wages were very welcome to the women who had previously earned a lower compensation as scrubbing women, or whose regular employment in near by mills, hotels, and in domestic service had not rewarded them so well. (In the new national agreement of the shop crafts, which is to be effective October 20, the coach cleaners are to be given an increase of four cents, bringing the minimum rate of pay up to 45 cents an hour.) It thus happened that the railroads substantially raised the standard of living for the women who entered the service. It offered them opportunities of congenial work as well as a raise in pay.

## INDUSTRIAL EQUALITY OF WOMEN EMPLOYEES

It was, indeed, a new experience for the women to enjoy the same economic advantages as men. The very first order of the Director General established a policy of equal pay for men and women when they do the same class of work. This was a significant step in the industrial history of women in this country, because it was the first announcement by the government, in any department, that it considered women on an equality with men in all the different forms of work which they were called on to perform.

Moreover, in most of the railroad occupations, women are admitted into the labor organizations on the same terms as men. The Brotherhood of Railway Clerks has undoubtedly taken in the largest number, allowing them to become members of local lodges on the same footing as men, and appointing them also as members of committees. The coach cleaners have been organized in separate women's locals by the carmen. More recently they are entering the new cleaners' unions open to both men and women, colored and white, of the American Federation of Labor. The order of Railroad Telegraphers also admits women into their membership without requiring them to enter separate locals.

## DECREASE IN NUMBER EMPLOYED

Because of the changed conditions of the labor market, an appreciable decrease in the number of women employed was to be expected during the winter of 1918–19. This change actually occurred. By January 1, 1919, the number of women fell to 99,709, a decrease of 2 per cent as compared with the high water mark of October 1, 1918. The reduction on April 1, brought the figures down to 86,519, or 14.9 per cent decrease. The latest returns compiled for July 1, show the total number now employed to be 82,294. This is a smaller decrease, namely, 4.9 per cent for the last quarter.

## REASONS FOR DECREASE

To account for these reductions various important reasons must be analyzed. Are they to be interpreted as a movement to crowd women out of the service, or are other factors to be considered? It is to be noted, in the first place, that early in the year men began to return from military service and were reinstated by the railroads according to federal orders. This meant that the latest employes had to be laid off to make room for the soldiers and sailors. In this change naturally more women than men were affected, as their seniority rights were less.

In the second place the decreases were due to a drastic reduction in the labor force on all the railroads of the country during the early part of the year 1919. This cut was made by the government in order to effect urgent economies. Women, again, were more affected than men on account of their lower seniority rights.

From the point of view of occupation, the greatest reduction since October has taken place in the round houses and shops, where the number of women fell from approximately 7,000 to 2,500. To explain this shrinkage, it must be remembered that women were largely used as laborers in these places and were often found unsatisfactory, because too much heavy labor was required of them. Under these circumstances it was inevitable that they should be dropped when man labor again became available. The decrease is also to some extent explained by the action of the Railroad Administration in discontinuing the employment of women in trucking, in track work, and as parcel room attendants, because of the risk of overstrain and injury. On the other hand, in the occupations in which women have long been employed, such as coach and car cleaning and laundry work, there is naturally a much smaller percentage of decrease.

Aside from these reasons for the decrease in the number of women employed, namely,—the return of the men from military service, the reduction of the labor force, and the unsuitability of the work,—another factor remains to be considered. The final test of the position of women is their value to the service. Can they do the work as well as the men whom they replaced, and thus prove their right to be retained? Now that men are again available, it is clear that women must prove their efficiency if they are to be kept in competition with men employes. The test is a real one, for in retaining women, the officials are not availing themselves, as other employers do, of a cheap source of labor, because the same salary is paid to men and women.

## WOMEN MAKE GOOD IN MANY POSITIONS

The chief objection which has been urged against the employment of women is their unfamiliarity with railroad life. A boy who grows up in the service acquires a general knowledge as he advances from job to job. There is no doubt that women were handicapped when they first began work on account of this lack of experience, especially in outside work, and because of their lack of familiarity with the materials used. Under the pressure of war conditions, it was difficult to give them adequate training, but some experiments in personal instruction were highly successful. Women have, for instance, only rarely qualified as clerks at a freight claim desk, as this requires a full understanding of claims. One of the railroads furnishes an example of systematic instruction for this work. A group of women were given lectures for one month on the various types of claims, details of rule book, etc. They were then taken to freighthouses to see how freight is handled; they learned the trade name of commodities; they visited yards to examine loaded freight cars on the tracks; they observed the construction of empty freight cars and went to car repair shops to examine damaged ones; they visited local stations to observe the agent's work in handling freight, and then traveled by way-freight to see the methods of handling this class of goods. Finally the group was taken to the shipping department of several large factories to see how articles are packed. In fact, as the agent said, they saw and learned a great deal more about the movement of freight than most men in the office knew, and they were thus able to begin the work of investigating claims with a background of actual knowledge. There is no doubt that intelligent training of this kind can make up for the lack of railroad experience. It enabled these women to qualify for highly paid positions, which had previously been considered too difficult for them.

This is only one instance of well planned training. Courses were also carried on in various cities for the instruction of ticket sellers. One of the chief objections which had been made to the employment of women in these positions had been their ignorance of geography. Through their training they were able to overcome this and other handicaps. A considerable number have made good even in inter-line work, which is known to be the most difficult part of the field.

There is undoubtedly a consensus of opinion on the part of railroad officials that women have made good in a great variety of positions, although judgment is not unanimous as to the jobs for which they are best fitted. The women clerks, officials say, adapt themselves quickly to routine work, pay close attention to details, and are careful and accurate. In manual occupations, such as sorting tickets and way bills and for comptometer work, they show greater dexterity and speed than boys. Their accuracy in certain cases is interestingly proved by the records of errors. In one office, for instance, where women as well as men are employed for the abstracting of inter-line way-bills, the total errors amounted to less than one half of one per cent, although they were working at a high rate of speed. Several machine operators in the same office, who were cutting cards, showed their deftness by an almost perfect record in three successive months, although they were cutting thousands of cards each day. One woman is listed as having cut 85,000 cards during one month without an error.

The criticism has also been made that while women are good in routine, they lack ambition to advance into higher positions. This statement will hardly hold water in view of the many important places now filled by women. That they have, in some instances, been slow to avail themselves of opportunities to bid for better positions is presumably due to their lack of industrial experience. Wherever they have been educated up to their new jobs and been encouraged to advance, they have shown the same capacity as men.

Judging from the facts before us at present, all indications point to the retention of women as a permanent part of the personnel in practically all types of clerical work. Space does not suffice to discuss the probable fate of women in all classes of railroad occupations, in which they are found at present. It can be said, however, that they have proved their value as telegraph and telephone operators in the transmission of train orders, and will be retained in these positions. They are also spoken of highly as station agents. Women will, of course, continue to do all the different forms of cleaning, including coach and station cleaning, and they will be found in the laundries and personal service, where they have the field practically to themselves.

In conclusion it may be said that sufficient time has not yet elapsed to allow a comprehensive statement of the future of women on the railroads to be made. This article is intended only as a contribution in the railroad field to the general stock taking and valuation of women's industrial achievements, to which the war has given rise.

# Should Labor Participate in Management?

By GLENN E. PLUMB

Counsel for The Organized Railway Employees of America

THERE are three basic interests in every industry first, the need of society for the products of that industry; second, the use of capital to procure the tools, equipment, materials, essential for the conduct of the industry, and, third, the human effort required to direct and utilize the tools, equipment, and materials which capital furnishes in the various processes of production and distribution, in order that society may obtain and possess those things which it needs.

The first element represents the interest of the consumers, the second element the interest of the investors, the third element the interest of the producers. If there are no consumers, there can be no industry. If capital cannot be obtained, the consumers' necessities cannot be met, the producers cannot find employment. If there are no producers, there can be neither field for investment nor the satisfaction of the needs of consumers. Each element is absolutely essential to the existence of the other two. With one single element lacking, the other two elements cannot function. No single element can obtain a preponderance in the industry, except at the expense of the other two, and no two elements can combine for their mutual benefit except at the expense of the third.

These three elements are all equal essentials to the existence of industry. These three elements make up society as a whole. A benefit to one or two elements at the expense of two or one, disturbs the social balance and creates disorder, unrest and revolution.

Each of these elements has certain well-defined rights which may not be violated without producing inevitable social disorders. The consumers—the need of society—have a right to obtain the products essential to their welfare at a price no more than sufficient duly to compensate the investors and reward the producers. The investor who devotes his capital to the service of society is entitled to the protection of his investment and to that constant and uninterrupted return which induces him to make the investment. The producer is entitled to receive, likewise, protection in his investment of human effort—that is in the security of his employment, that rate of return which induces him to place his efforts at the service of society, and a fair share of any increase in productivity which his skill promotes and creates. The corporate control of productive industry has resulted, first, in the complete organization of the capital invested in that industry, second, in the partial organization of the labor employed in the industry, and, third, in the total disorganization of the consumers requiring the products of that industry.

In the capitalistic organization the investors contributing money to the enterprise, as the condition of their investment, have been required to surrender all competitive efforts between themselves and to join in a complete coöperative production, each contributor of capital agreeing to pool his money with the other contributors and to pool returns or profits, so that the reward for one should be the reward for all; as owners of capital they have surrendered their privilege of competing with each other in the industry, which they now conduct on a coöperative basis. True, the owner of two shares of investment receives twice the amount of return which the owner of one share receives. But each receives the same rate of return apportioned upon the amount which he contributes to the enterprise. Under the same agreement these investors surrender to the board of managers which they create all of their individual powers of negotiating with employes as to wages and conditions of labor. This group of capitalists through their agreement adopt collective bargaining as the basis of their side of the negotiations with the producers as well as collective selling as the basis of their transactions with consumers. The wage which their management fixes for employes is the wage which all of the investors adopt as the basis of negotiation with the producers. The price which the management fixes for the products of the industry is the basis which all investors adopt in their negotiations with the consuming public.

As against this capitalistic organization so established, labor has organized, not as completely as has capital, but to a very large extent, and has insisted on collective bargaining with capital on behalf of the producers. Capital and labor have classified by agreement between themselves the ranks of employes, and have insisted that each individual in a specified rank should receive the same rate of return in wages, that return to be commensurate with the service which that rank renders. The consumers remain as yet unorganized, and have no means of collective bargaining with the management of the productive enterprise. Yet by common consent, in instances where the public need has been totally disregarded, an organized boycott has sometimes come into being as a popular protest against the total disregard which capitalistic management has shown towards the needs of consumers.

A boycott is nothing but a consumers' strike. A lockout is an employers' strike. A strike is nothing but a producers' boycott or lockout.

The investors acting coöperatively through corporate management have deemed labor to be a commodity, a thing to be bought and sold, just as are materials which are the product of labor. Commodities are the result of human effort, not human effort itself. Commodities cannot produce. Human effort alone produces. It is the creative impulse of mankind, it is that divine spark of omnipotence breathed into human clay that distinguishes it from merely brute force. Treat labor merely as brute force, and it becomes brutalized, degrading society to the level of the brutes. Recognize and reward its divinity, and it takes its place as the great uplifting formative power of civilization. He who sells commodities always seeks to part with as little of his commodity as possible for as high a price as he can extort from the buyer. He who buys commodities seeks to get as much as he can obtain for the lowest possible price. Under this false conception of labor, that it is a commodity, the wage-earner has been placed in the position of a seller of commodities. Can he then be blamed if he bends every effort to selling the least possible amount of service for the greatest possible price to be obtained?

In the old days when an individual conducted his own industry, furnishing labor, capital and materials himself, he knew that the profits to be obtained from this joint investment of labor depended entirely upon his ability either to increase the quantity of his products, improve the quality of his output, or decrease the cost of production, and thereby supply the needs of the consumers at least cost to them. His profit impulse, therefore, depended upon better service to society. But this was under a condition of free competition; if he did not render this better service, another would. In those days the management of the individualistic industry paid due regard to the interests of capital, producers, and consumers.

But now conditions have changed. Society, in order to obtain more economical service, has come to recognize that unlimited competition means unwarranted expense, duplication of investment in unnecessary plants and equipment, a competitive lowering of wages below the level conducive to social betterment. Society has therefore granted and fostered a monopoly of privilege for meeting its needs, and so has built up the various industries based on grants, franchises and privileges. The number of industries which come within this description has been gradually enlarged, until now many industries which were formerly considered private are considered essential to the public welfare by reason of their having acquired a monopoly in the field of production. The public need of the products of the Standard Oil Company, of the United States Steel Company, is so great that it is unthinkable that these great industries could now refuse to supply society's demands or could refuse to answer to the responsibility which their great development imposes upon them. Yet they maintain, so far successfully, that they are individualistic industries, not subject to public control either in the matter of prices and service to the public or in the matter of wages and returns to producers. They decide what shall be the interests of both producers and consumers in what they deem to be matters essential to the protection of their interests as investors.

The coming order will treat capital, producers, and consumers alike. The need of society when expressed in a franchise is just as essentially an investment in industry as is the investment made by capital or the investment made by labor. This is a vital, living, human interest. It is just as valuable an asset to the industry as is the capital which furnishes tools and materials for the conduct of the industry. Society has made this investment, just as the owners of capital make their investment, in the hope of obtaining a return on that investment in the shape of increased production, improved quality and reduced prices. Those who make this investment are entitled to a voice in the control of the industry to see their investment is properly protected, and that no deceit shall be practised upon these investors in any matters affecting their interest in the conduct of the industry. The producers are also investors. They invest the other vital element in the industry, the power that creates. If their position as an investor is recognized, then they, too, become imbued with the motive which actuates all investors—to increase quantity and improve quality, thereby reducing cost.

We have here two vital human elements representing the need of the consumers and the creative power of the producers. The growth of the industry depends upon these two elements. As the need of society increases, the field of production is widened; without this widened field the effort of the producers would be in vain. With this widened field and unlimited capital no increase of production would be possible except for the impetus to the creative element represented by the producers. The creative element of society in order to protect its interests, must have a voice in the management of industry. The breadth of the field of its activity depends not only upon the use of capital, but also quite as vitally upon meeting the needs of the consumers. A rise in the price of the commodity to increase the profits to capital, decreases the field of employment by circumscribing the extent of the market; so that consumers and producers have this interest in common, that the prices charged shall not be in excess of what may be required to pay for production, including fair return on the investment.

Again, both producers and consumers are concerned to preserve that fair return on the required investment, so that sufficient tools, materials and money may always be available for the successful conduct of the industry. By treating the needs of society expressed in a franchise as an essential investment in the industry, the creative forces of producers as another essential investment to share with the third element, capital, in the control of the industry, we establish harmony in industrial relations. We restore to individuals, both consumers and producers, the advantages to be obtained by coöperative production. We establish democracy in industry by giving to each fundamental interest an equal voice in the direction of the industry, exactly commensurate with the fundamental importance which that interest bears to the entire industrial organization.

# Railway Efficiency and Labor

### By Capt. O. S. Beyer, Jr.[1]

Washington, D. C.

AMERICANS have been wont to pride themselves on the perfection with which their steam transportation is supposedly conducted. Ever since railroading acquired an appeal to the national imagination, many individuals as well as the public and technical press have striven to point out the high efficiency and fine service of American railways, especially as compared with those of foreign countries. Large locomotives, high capacity freight cars, certain well appointed passenger trains, long freight trains, heavy bridge and road construction, are pointed to as particular evidences of American superiority in the art of transportation. And behind all these outward evidences is supposed to be the enterprise and ingenuity characteristic of this nation. Occasionally, to be sure, a late or overcrowded passenger train, a streak of poor dining car service or a long delayed or damaged freight shipment may call forth more or less violent abuse of some particular system, but in no way is this ever considered a reflection on the general merit of the national railway enterprise.

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[1] Mr. Beyer is a graduate of the Stevens Institute of Technology (Mechanical Engineer, 1907). He did graduate work and railway and industrial economics in the University of Pennsylvania and the University of New York (1907–1919). He has been (1911–1912) technical assistant to the general mechanical superintendent of the Erie Railroad in charge of developing scientific train loading, electric welding, investigation, etc. As motive power engineer he was in charge of similar work on Rock Island Lines (1912–1913). He has been (1913–1915) general foreman, Second District shops of the Rock Island Lines, Horton, Kansas, in charge of medium and heavy repairs and of all Second District locomotives. He was later (1916–1917) research engineer in the Engineering Experiment Station of the University of Illinois in charge of the locomotive test laboratory and other equipment and also instructor in railway engineering At the outbreak of the war Mr Beyer participated in the organization of the U. S. Army School of Military Aeronautics, University of Illinois, and later took charge of the Department of Aeroplanes (1917). He was requested by the United States Army Ordnance Department to organize and operate schools for training of ordnance specialists and officers. In this capacity he organized the Ordnance Heavy Artillery School, the Ordnance Instrument Repair School, the Ordnance Engineer Officers' School; and later on as this work became coördinated his duties were extended to the supervision of all technical and military courses of instruction. In order to conduct this work Mr. Beyer was commissioned captain in January, 1918.

Captain Beyer is now Chief of the Arsenal Orders Branch of the Ordnance Department The employees of the Army Arsenals coöperate directly with and participate in the functioning of this agency for the purpose of making the surplus manufacturing capacities of these plants available on sound economical and efficient basis for all departments of the government.—The Editor.

It cannot be maintained, however, that the people of this country, in spite of the impression that their railroads are relatively efficient, have, as a class, been satisfied with their management and control. Judging from the mass of past regulatory legislation, city, state and national, finally capped by the climax of federal control as precipitated by the recent war, we must conclude that something has not been going well with the relationship of this industry to the public. And today, the war long over, with the railroads still rented to the government, a situation has arisen concerning the future welfare of transportation which apparently cannot be remedied by resorting to the usual measures of the past.

It is unfortunate in view of the present impasse in which the industry finds itself that the impression should ever have come into existence, despite all its other ills, that railroad efficiency as such is of a high order. The heritage of this notion is doing more to becloud the railroad problem as it stands than almost any other phase surrounding it. And those concerned with the solution of the problem along lines intended primarily to safeguard or further certain types of financial control through the mediums at their disposal, are, of course, making the most of this fallacy. Today, as their own iniquities are coming home to roost, these interests are, with characteristic alacrity, taking advantage of the short cut reasoning of the popular mind, and are maintaining that the deficits which have occurred under federal control are due to the inefficiencies which, as they allege, inevitably follow governmental management.

This, of course, is absolutely untrue and has so been demonstrated by both Mr. Wm. G. McAdoo and Mr. Walker D. Hines, the former and the present Directors General of the United States Railroad Administration in much of their recent testimony. In the last two years all the fine work of fifty years of financial exploitation has come to a head. The first necessity of the federal railroad administration after its organization was to get the industry on a square basis with respect to all the interests concerned, and this it certainly did with a speed, a thoroughness and a fairness truly remarkable. That the whole problem with its infinite variations and ramifications was not solved in accordance with certain financial standards in the twenty-one months of governmental control just passed is now speciously held out as proof of the federal government's inability to participate genuinely and permanently in the conduct of this vital industry.

As already indicated, the notion that our railroads in the past have been highly efficient is fallacious. This is doubly true when judged from the basis of real standards of operation and organization such as science has been able to devise in recent years. Only once has this false notion been seriously questioned and that was by Justice Louis D. Brandeis when in 1910 he was acting as attorney for the Interstate Commerce Commission in the now famous Five Percent Rate Case, heard in Boston.

Since the whole subject of railway efficiency was so rudely driven into the open in 1910, attempts were made, more or less in secret by private managements, to do something by way of bringing about improvements. Most of these were made largely because of the necessity imposed by rising labor and fuel costs. They have all fallen into one class, principally mechanical improvements, which specifically resulted in grade reduction, more powerful locomotives, and heavier freight trains. The test for any such improvement has always been its justification from the viewpoint of return on the capital invested, except where improvements were forced by law for the sake of safety or service.

A close inspection of the entire situation to date reveals the fact that the only two directions in which railway operation might have been bettered were simply those of physical improvements and of extensions to the mechanical plant. And from the point of view of conventional financial standards, the net effects of such improvements when made were almost invariably absorbed by the inevitable demands of labor and the public. It never has been possible to coördinate the basic interests concerned in the railway industry, namely, the public, labor, management and the investor, so that their contributions and requirements would work cumulatively for a continuous and automatic raising of the efficiency of the industry. The attempts of the American Railroad Employees and Investors' Association, led by Mr. Morrissey, former Grand Master of the Brotherhood of

Railway Trainmen, for the purpose of bringing about an identity of interest between the railway worker and the railway investor, ended, as so many similar experiments in other fields have ended, in abject failure. The application of the principles of scientific management to certain of the processes employed in steam transportation, as originally conceived and devised, were discredited as rapidly as they were suggested or tried. An irreconcilable conflict of interest has been in existence, with the workers and the public usually on one side and the private investors with their managements, from bankers, directors and presidents on down, on the other. As showing to what miserable depths this conflict has at times precipitated important railroad systems, and to what a degree the public has been imposed on the experience of the New Haven, Rock Island, Frisco, Alton, Pere Marquette, C. H. &. D., Gould Lines, and many others need but be cited.

In all this turmoil it is no wonder that the minds of the railway managements have never been primarily engaged on the problem of efficiency, service and safety except in so far as they were identical with profits. It is no wonder that the workers have been diverting their latent resourcefulness and ability from constructive channels into channels which led to the safeguarding of their basic interests, irrespective of conventionally conceived efficiency and service. Over all the specific problems of the managers which concern themselves with raising the railways to a high degree of scientific perfection, those precipitated by labor disputes, rate disputes, competition, accidents, etc., etc., had, by their very insurmountable abundance, inevitable precedence. Time was rarely, if ever, left for studying and applying to the utmost the developments of science. Indeed, it has usually been by a sort of mild mannered sufferance on the part of both labor and management that really effective scientific improvements were ever permitted to steal into the business.

It should not be difficult to imagine what kind of men for managerial posts this system has bred. The average railroad official has had to be a so-called "he-man." His main quality had to be ability to keep his subordinates in line and have them do what he and his superiors considered necessary. He had to be an autocrat with a superior will; he had to be able to "handle men." While practical judgment, bred of long and tortuous experience, was as absolutely necessary as autocratic qualities, keen scientific insight, a thorough appreciation of the possibilities of scientific organization and of the value and significance of coöperation, all were quite secondary in the usual evaluation of the typical railway official. It certainly cannot be maintained that these officials as a class have ever acquired a high scientific appreciation of their industry. And this deficiency, of course, has had its serious effect on the efficient conduct of the railroads.

In justice to existing managements it is only fair to state that the predominant characteristics (pointed out above), which mark them, are inherent in these managements because of basic conditions over which they have little if any control. It is to be regretted, however, that those composing the managing groups are blind to their predicament and therefore take no steps towards remedying these conditions and achieving the true ideal which they now dimly realize is possible, but do not know how to secure.

One other element of importance concerns the contributions to the industry by way of mechanical improvements. Most of these have in reality come from outside sources, namely, the supply interests whose products are sold to the railroads. The stimulus actuating these supply interests has always been profit, and the cost to the railways for improved devices supplied has always been accordingly. No system has ever been devised within the railway organizations themselves whereby it became distinctly desirable to develop internally mechanical improvements, which would bring about better operating or service conditions. These all had to be sold to the railroads from the outside. The vast developments in the dependence of the railways upon private supply concerns is revealed annually in most striking ways by the elaborate exhibitions which accompany the many yearly conventions of the different railway technical associations.

Such in brief are some of the features of the railway situation in relation to past and present-day efficiency. When the government took the railroads over, the most conspicuous conditions contributing to existing or threatened inefficiency and operating troubles were recognized and partly remedied. The most important of these remedies undoubtedly was the administration's approach to the solution of the labor difficulty. How fundamental this problem is with respect to the possibilities in real railway efficiency seems never to have been appreciated. The railroad administration, however, courageously took cognizance of it and made some progress in demonstrating its true significance, even if the maximum of results possible have not been secured.

The fight which labor has been and is conducting in the railway as in all other industries is fundamentally a fight for status. Living wages and decent working conditions are but the preliminary objectives to be won. These are necessary as starting points for further advances. Many of these objectives having already been gained, the next ones necessary for progress are becoming clear. For instance, it is becoming apparent that in order to hold the gains so far made, a large measure of responsibility for the conduct of industry devolves directly upon labor. Without power to exercise this responsibility, it is finding that its advance positions by way of better wages are being rapidly mined by increased living costs. How to control costs of production, therefore, begins to loom up as the next important problem of strategy for labor in its battle, and railroad labor finds itself acutely involved in just this phase at this very time.

An analysis of the situation from the viewpoint of railroad labor, reveals the following points: The acquirement and control of the railroads by groups of financial interests, too often sentimentally intrenched for their selfish purposes behind insurance, educational and philanthropic institutions, and widows and orphans, has resulted, by the very nature of the motives actuating these groups, in the creation of an intensified struggle in which real railway efficiency and service have suffered immeasurably. With their minds bent (in the terms of the British Labor Party's Program) not on service to the community, but—by the very law of their being—only on the utmost possible profiteering or speculation, have these groups proceeded with the conduct of the industry. Thus the inefficiency and dis-service which was inevitable has made itself felt time and again in the cost of transportation to the public. Thus railway labor, which, with its dependents, constitutes no small part of the public, has not escaped the results of the increase in the cost of living.

Obviously, therefore, as long as the conditions are such that these groups retain control of the industry primarily as a source for profits and exploitation, the railway workers reason that their daily efforts, that portion of their living energy, of their very lives spent working in the shops, on the road, in the stations, freight houses, storehouses, and offices, is subject to a tax which must be satisfied before they can derive that return from their daily efforts which will enable them to continue to contribute their energy to the conduct of this industry. How, they reason, under such a system can they possibly give the best that is in them for the sake of the industry? Of course, they cannot, for they would then be perpetuating a system of distribution which goes absolutely contrary to that urge in the heart of labor, which has been seeking eternally to divide the blessings of the earth with greater and greater fairness.

Since the relation between rising transportation costs, living costs and the net return possible to labor from the industry conducted under the system exacting a prior lien on labor's daily efforts has grown clear, the railway workers have begun to see what actually can be made possible when these obstacles which have forced labor into its present position are removed. Primarily, as already pointed out, the railway worker is not overlooking the necessity for assuming greater and greater responsibility for the economical and efficient conduct of the industry. That his opportunity in this direction will become greater, nay indeed almost unlimited, is wholly true.

Mention has already been made of the popular delusion concerning the high efficiency of the national transportation systems. Due to the suppressed, veiled, and occasional open struggle which has been going on between the workers and the controlling interests, coöperation between workers and management for service and efficiency has never been possible in any degree comparable with the ideal. The slack, the waste, the loss which has resulted, from this is incalculable. All the thinking, all the planning, all the guidance, all the responsibility, has been arbitrarily relegated to the management, a very small group as compared with the millions of workers. If unusual efforts on the part of the workers were put forth at times, the stimuli which provoked them sooner or later lost their effectiveness. Spontaneous efforts looking towards real lasting continuous improvements have rarely developed or ever lasted any length of time. The appeal for such a desirable state has never come from the proper source. It has never come wholeheartedly, voluntarily, from the men, from the bottom. The insistence has always come from the management, from the top.

From the minimum of individual and collective efficiency, which results when the workers give only just enough to hold their jobs, has often been subtracted that amount of efficiency which would have resulted from the effort, resourcefulness and ingenuity of the workers, which, with proper inspiration, might have been added to this minimum, had not conditions been created, due to suspicion, arrogance, lack of faith, etc., which made it imperative for the workers to convert their latent ability into means for safeguarding their own immediate and vital interests. The strike with its consequent total cessation of service and efficiency is the culmination of this particular tendency.

It appears, then, from the foregoing that labor's opportunities in assuming greater and greater responsibility for the ultimate cost of transportation certainly lie in the direction of providing that inspiration which will release its constructive and creative ability, untrammelled and unhampered by conscious or unconscious reservations and restrictions. On this particular point, Mr. Alvin Johnston, in the *New Republic* for June 7, 1919, pointed out most clearly that there is very great

> "loss in inventiveness that results when men give their bodies to their work but not their whole minds. The industrial process is susceptible of infinite improvements in detail and the workers, if alert and intent upon the problem of industry, know just where these improvements are needed. They know collectively more about this than any manager, however well equipped for efficiency engineering. Most of them lack the ability to devise improvements although they may be conscious of the need. Practical inventive ability is rare. But nobody can question that there is potentially a vastly greater volume of inventive ability in the whole working class than in the small group of inventors, selected for training by extremely haphazard methods, who are almost the exclusive carriers of industrial progress today. What is requisite to the development of this incalculably valuable resource is the active interest of the workers and a pride in workmanship that not only will direct their own thinking toward the problems of production but will enlist their support for public technical education. These can be had only on one condition, the thoroughgoing revision of the relations between employer and employee. The employee must be given a share in the responsibility for production if he is to give in return a freeman's initiative."

These are the losses which the railroad industry indirectly is suffering now and which are preventing any possible approach to a high degree of efficiency and service. It is for the railway workers to retrieve these losses by their assumption of responsibility for them. Democratic control or workers' participation or the Plumb Plan must base their main claim for the correct solution of the railroad problem upon their ability to release the forces which will overcome these losses.

Nor is the burden assumed by labor for the democratic solution of the railroad problem limited only to this responsibility. In addition to the constructive contributions possible from the railway workers, much valuable assistance may be secured for the railroads by substituting for public hostility public favor. Here again the fundamental element of coöperation must be brought into play by the removal of those conditions which have created the existing divergence of interest between the public and the railroads. The loss which results from the present state of latent and open animosity between the public and the railroads is no less serious and vast than the loss which is following the inability of the present arrangement to enlist the full creative faculty of the two million railway workers. The diversion of the public's resourcefulness, ingenuity and ability from purely defensive efforts to efforts seeking constructively to benefit the industry, and thereby itself, would indeed be a long step in advance.

The conditions which are responsible for the clash of interest between railway labor and railway owners are also responsible for the clash of interest between the public and the railway owners. The public suffers from the ills of the existing system of railway control and management in ways quite identical with that of labor. Hence it is forced to protect itself by measures not widely at variance with those employed by labor. It follows, therefore, that the removal of the causes which compel both labor and the public eternally to employ all their resourcefulness to protect themselves from exploitation will make possible the complete application of the joint resourcefulness of both labor and the public to the rapid improvement of the industry.

Thus in short, the net result under the system of private financial control is that no group, neither management, labor, nor public, is ever primarily, wholeheartedly and automatically concerned with promoting the true ideals of railway service. By the very nature of the existing influences and tendencies under this kind of control, new difficulties are created faster than old ones are solved. This condition has invariably required the full time, effort and energy of these groups and left little for the solution of the problems of service and efficiency. And lastly, under this system, just one group of the three, the smallest and, under the circumstances, the most harassed, namely, management, has been saddled with the entire responsibility for introducing improvements into the industry. It is no wonder, therefore, that the entire industry from the viewpoint of true progress has lately exhibited signs of deficient vitality.

It may be well to indicate a few of those reforms which will be brought about and scientific standards which will be rapidly approximated when those elements responsible for creating an antithesis of interest between the three groups concerned are removed, and it becomes possible for these three to coöperate genuinely towards but one end, namely, perfection of service. In a general way the reforms which are possible in the industry as it stands today, may be classified under the following heads:

(a) Those possible through unification of the so-called competing elements of the industry, i. e., nationalization.
(b) Those possible through the representation and participation of the workers in the management.
(c) Those possible through coöperation between the public and the railroads as a national enterprise.

## NATIONALIZATION

Under "nationalization" may be listed many of the reforms introduced by the United States Railroad Administration. Mr. William G. McAdoo in an address to the Senate Interstate Commerce Commission submitted the following as the principal improvements, already started or possible in the future:

1. The maintenance of the permit system so as to control traffic at the source.
2. The maintenance of heavy loads for cars.
3. The pooling of repair shops.
4. The elimination of circuitous routes.
5. The unification of terminals.
6. The maintenance of the "sailing-day plan."

7. The consolidation of ticket offices.
8. The utilization of universal mileage tickets.
9. The standardization of equipment.
10. The maintenance of the uniform freight classification introduced by the U. S. Railroad Administration.
11. The maintenance of common time tables between important points.
12. The maintenance of uniform demurrage rules.
13. The establishment of through waybilling freight from point of origin to destination.
14. Rendering unnecessary the rebilling by connecting or intermediate routes.
15. The elimination of the old practice of paying in mileage or per diem rental for the use of freight or passenger cars of one carrier by another.
16. The simplification of the old practice of apportioning interline passenger revenue.
17. The utilization of water routes for the relief of crowded rail lines.

And this list may be extended by adding:

18. The zoning of the railway coal supply on a national basis to prevent useless cross and backhaul, much of which is going on at the present time.
19. The pooling of motive power as well as of car and shop facilities.
20. The electrification of large railway districts adjacent to coal mine fields by securing electric power derived from super-power plants located directly in these fields.
21. The maximum utilization, through pooling and otherwise, of the test and experimental facilities now owned by individual railway systems, which lie idle for the largest part of their useful life.

### REPRESENTATION AND PARTICIPATION OF WORKERS IN MANAGEMENT

The improvements possible in efficiency under this head are many indeed. This is an almost unexplored field. A few of such reforms are as follows:

1. The gaps which exist in the present administrative machinery both between the management and the men and between the various supervisory groups, such as superintendent and master mechanic's offices, chief despatcher's office, yard master's office, engine despatcher's office, car distributer's office, roundhouse office, etc., could be closed up and the possibility of the misunderstanding and poor coöperation which now result in delay and expensive irregularities of all kinds reduced to a minimum. At best the liaison be-

tween all these groups is surprisingly imperfect. From the point of view of scientific organization very little progress has been made in this particular respect.

2. There are many obstacles at the present time which make it very difficult to get accurate information concerning incoming trains and cars due at each of the terminals of a railroad into the hands of the terminal supervision in sufficient time to enable the preparation of accurate workable operating plans for a given period in advance. Most of these obstacles would automatically disappear and the others could much more easily be overcome than at present. The benefits which would follow this one improvement, in more orderly, systematic, daily operation, would be very remarkable and would undoubtedly serve in a much greater utilization of existing facilities.

3. As a corollary to the foregoing the establishment of standard schedules for all freight as well as for passenger trains, based on scientifically accurate and economically correct operating determinations, would follow. With such schedules fully appreciated and understood by all the employees because of their greatly enlarged interest in the success of the industry, the organizing of daily operation accordingly would be markedly facilitated.

4. In order that the contribution of each element, especially the employees, to the success of operating the industry might be properly determined, reliable individual performance records would be developed. The fundamental tendency under the new order on the part of everyone will be to take a deep interest and pride in these records, such as is absolutely out of the question at the present time on account of existing relationships. They will serve as a guide and inspiration to every individual to improve his particular contribution to the collective effort.

5. The real significance of thorough industrial education for each worker would quickly develop. Ways would promptly be provided for everyone, apprentice and engineer, to benefit thereby in order to increase his usefulness.

6. No mean opportunity for improved economy would lie in the direction of eliminating petty waste, particularly in engine and train supplies; water and fuel for locomotives, power houses, pumping stations; in shop and office supplies, in heat, light and power around shops, offices, stations, store houses; track supplies, tools and equipment repair materials, etc., etc. When the stake in the welfare of the service becomes of paramount importance to the workers, then this opportunity will be pushed to the utmost by those

who can do most to eliminate this petty waste, namely, the men themselves.

7. In this connection mention should also be made of such savings in damage to shipments which would follow when the employees individually feel their responsibility every moment of their time on duty for the unharmed transport of the freight and baggage entrusted to them. This, however, can only become possible when customary indifference is broken through and the desire for safe transport of materials becomes as much a part of the conscious will of the employees as furthering their own safety. It takes a deeper appeal, however, than the iron hand of discipline to bring this about.

8. When unalloyed coöperation between the supervision and employees is fully developed, the applications of science to the process of railroading will increase by leaps and bounds. The attempts of Dr. Frederick W. Taylor to apply the results of scientific research in an intensive form to the methods employed in many of our manufacturing industries have largely gone astray because the economic and psychological welfare of the workers was, under the existing industrial system, practically ignored. What little good, as a result of the scientific perfecting of manufacturing processes accrued to them in the end, amounted to nothing more than a mere sop, and this, of course, any self-respecting group of society is bound to resent. This is especially true when the net effect in reality amounts to nothing else than the further intrenchment of an arrangement which would make the ultimate emancipation of the workers all the more difficult.

However, with the basic arrangement so modified that the benefits of the thorough application of science would accrue jointly to the good of society as a whole and the producers in particular, and not primarily serve to increase the wealth of an investing class, then a vast incentive is created for the extensive application of everything that science has to offer by way of bettering railway transportation. A recent resolution passed by the American Federation of Labor is an indication of the true significance from the viewpoint of organized labor of the relation of science to industry.

9. The establishment of employment bureaus for the purpose of enlisting workers in the railroad industries and properly keeping them engaged would undoubtedly become very desirable. The existing methods for securing help and getting men started is very chaotic. Labor turn-

over, as is well recognized, is very expensive. This, through employment bureaus properly and democratically controlled, would be reduced to a minimum.

10. In a general way the loss to society because of the suppression or diversion of the workers' creative powers has been indicated. It is easily conceivable what great good can be made to follow if conditions are such that every worker is enabled to participate genuinely and wholesomely in the particular processes of transportation with which he has to do. Railway workers are of a relatively high order both intellectually and physically. They are quite conscious of the necessity for a high amount of responsibility to the community and this by very virtue of the service in which they are engaged. For them it forms an ideal foundation upon which to erect their structure of creative human contribution to the industry. The technique of building this structure is not difficult of development provided it can be shown conclusively to the worker that he will grow in status as he releases more and more of this now dormant ability.

## COÖPERATION BETWEEN THE PUBLIC AND THE RAILROADS

With the element of antagonism between the public and the railroads removed, it is easily conceivable that a true spirit of coöperation, a real and lasting *rapprochement*, can be effected between these two interests. The public mind and will, as expressed through civic bodies, officials, city, county, state and national courts, legislatures and commissions, would then be released from their forced position of safeguarding, through eternal check and control, the interest and welfare of the public. The prevailing purpose will then become helpful and constructive. This again is a field which will offer a large variety of opportunities for improving railway service and efficiency. A few possibilities follow:

1. Almost everyone is familiar with the car situation throughout the country and has undoubtedly observed occasions when cars might have been loaded or unloaded with greater despatch. The whole demurrage system is largely an outgrowth of the tendency towards indifference on the part of shippers and consignees to load and unload cars promptly and get them back into service. A greater natural readiness to release equipment for service ought quickly to do a good deal to reduce the premium by way of

demurrage charges upon idle cars and so effect a plausible measure of public economy.

2. In a memorandum entitled "Can we move it?" Mr. Morris L. Cooke, Consulting Engineer, Philadelphia, Pa., has indicated that by close coöperation between the shippers and the railroads, it is possible to devise an intelligence system whereby the demands for cars can be so systematically anticipated that the likelihood of car shortages and inadequate railroad facilities in general (particularly during times of heavy freight movement) would be greatly reduced. The gain from this source by way of greater public satisfaction and improved efficiency in equipment utilization would be no small element contributing towards eventual economy.

3. In the educational field, i. e., the preparation of young men and young women to become useful members of society, it seems that the opportunity exists for the greater and greater use of our public, vocational and high schools, our colleges and universities, for the purpose of training for railway service. Our public and high schools, especially those in railroad towns, may be utilized to a much larger extent than they are, particularly during afternoons and evenings, for supplementary education in railway matters for those entering the service, as well as for adults already long in the service. For many reasons the railway industry in this country has not in the past attracted a proportionate share of thoroughly trained technicians to its organizations. With improved relations between the public and the railroads, it should prove possible to have the instruments of public education contribute more and more towards the training of railway personnel.

4. Scientific research is at present largely fostered by public institutions, such as state university experiment stations, the Bureau of Mines, the Bureau of Standards, the National Research Council, and to a more limited extent, by scientific societies. As compared with the agricultural industry, the funds advanced by the public for experimental research in the interest of the national industry only second to agriculture, namely, transportation, are very limited indeed. No doubt a very great deal of this can be ascribed to the difference in the relationship between the public and these two industries, as developed by those who stand sponsor for them. Agriculture, in the mind of the public, is a favored institution because it has not been characterized by exploitation, whereas railroading is an unfavored institution because it has been so characterized. Hence little

assistance has come from the public purse for the scientific development of the industry.

And even where the public has, as in two of our large state universities, advanced large sums for helping the railroads through engineering research, circumstances have been such, due to the snarl the industry has always been in, that even the facilities thus provided have been idle practically all the time. This is certainly a sad commentary on the alleged progressiveness of American railroad methods.

It is simply suggested here that if one-tenth of the funds spent by the public for combating the evils now associated with the railroad industry as it is controlled, added to one-tenth of the funds spent by the railroads directly for combating the public, plus one-tenth of that spent for "Advertising" in order to create or divert business from one road to another,—and this total devoted to scientific research and the application of its results to steam transportation, the effect, measured in improved service, greater safety, higher efficiency and better economy, would be ten times that now attained.

5. Under the head of reforms made possible by public faith in the industry may finally be mentioned the subject of railroad credit. This is primary in its importance to the future of the transportation industry, particularly if it is to improve its service to society. The ideal to be approximated should be the assumption, on the part of every communal interest, of a proper measure of responsibility for physical improvements or extensions of the railway facilities required by it, consistent, of course, with necessary standards. That this possibility is by no means fantastic may be concluded from the responsibility which communities now assume for through roads, park systems, educational systems and such local facilities as streets, fire protection, libraries, etc. A highly developed relationship between the public and the transportation industry would make it relatively simple along truly democratic lines, for each distinct portion of the population, in much more direct ways than are possible today, to assume and feel its full measure of responsibility for not only the successful conduct of the industry, but also for its perfection and extension in conformity with the genuine needs of society.

## SUMMARY

To summarize what has been said, therefore, it is reiterated that the American railway transportation industry is by no means as efficient as it might be nor as the public generally has been led to believe. This does not mean that relatively, as judged by such conventional standards as tons per mile hauled, capacity of freight cars, size of motive power units, freight rates per ton of traffic, tons per train, the American railroads are not as efficient as those in other countries. However, the question of relative railroad efficiency is not germane to the issue which confronts the country today. The question concerns itself more with the maximum efficiency possible as determined by the extent to which the achievements of science are employed in the industry. In this respect, as has been pointed out, much indeed remains to be desired. The railroad problem never will be solved until the fundamental conditions based squarely on the economic relationships of the interests concerned tend constructively towards greater and greater harmony and an ever growing intensity in the application of science to the conduct of the industry. When this desirable state has been reached vast stores of latent resources both in the control of the railroad workers and the public will be released with the effect that the efficiency, service, economy and safety of the railroads will continuously increase. Only a truly democratic solution of the problem can possibly bring about this desirable condition.

## DISCUSSION

### By SAMUEL O. DUNN

Vice President and Editor of Railway Age

The time given me to prepare a discussion of Captain Beyer's paper is extremely short and, therefore, I shall be able to touch upon only a very few of the points sought to be made in it. As I read this paper, Captain Beyer takes the position that the railroads of the United States under private management have not been efficiently operated and that in order that they shall be efficiently operated their ownership must be transferred to the government and their management largely transferred to the employees under some such scheme as the Plumb Plan.

In measuring the efficiency with which an individual does his work or a management conducts a concern it is necessary to apply standards of some kind. Captain Beyer says that "the notion that our railroads in the past have been highly efficient is fallacious" and that "this is doubly true when judged from the basis of real standards such as science has been able to define in the last ten years." Unfortunately, he does not mention any of the "real standards" to which he refers, and, although I have been a constant student of railroad operation and the railroad problem for many years, he does not convey to me any idea of what standards he means.

There are, however, certain standards which have been generally applied by experts in measuring the efficiency of operation of different railroad systems, and I maintain that the application of these standards shows, first, that the railroads of the United States under private management were as efficiently operated as any other railroads in the world, and second, that under private management there was a steady and rapid increase in the efficiency of their operation. Nowhere in his paper does Captain Beyer cite a single concrete fact in support of his proposition that our railroads have not been efficiently managed. The following are some facts which may be cited in support of the counter proposition that they have been efficiently operated.

They have developed and used the most powerful locomotives and the largest freight cars in the world. I grant, of course, that in developing them they have been helped by the railway equipment and supply companies.

They have handled more tons per car and per train than any other railroads.

They have paid higher wages while charging lower freight rates than any other large system of railways.

They have handled more traffic in proportion to their capital investment—nominal or real—than any other railways.

They have handled more freight traffic in proportion to the number of their employees than any other railways.

Except in respect to the matter of safety, they have rendered as good freight and passenger service as any other railways.

Anybody who reads Captain Beyer's paper without knowledge of the facts regarding the way in which our railways have been managed would conclude that because of their alleged domination by a few great financial interests the managing officers have hardly thought of anything except trying to please and placate their financial masters in Wall Street. Doubtless this has been the case on some roads; but on a large majority of roads it has not been the case. I have lived for many years in close contact with the operating and executive officers of our railroads throughout the United States, and I am stating what I personally know to be a fact when I say that very much the greater part of their thought and energy has been devoted to trying to increase the efficiency of operation and improve the service rendered to the public. The results of their efforts to increase efficiency are set forth in the statistics of the Interstate Commerce Commission, where every man can ascertain them.

Let us consider just a few of these statistics for the years 1906 to 1916. I stop with the year 1916 because in 1917 abnormal conditions were created by the war. In the year 1916 the railways had 1,654,075 employees. The average compensation paid to them was $849, an increase over the average compensation paid in 1906 of $272, or 47 per cent. A very simple computation will show that if in 1916 the railways had paid their employees the same average wage that they did in 1906 the total wages paid in 1916 would have been $450,000,000 less than they actually were. In other words, there was an increase of $450,000,000 a year in the pay roll in these ten years which was due to advances in average wage per employee. During the decade when this large increase in wages was occurring there was no advance in the average charge for transportation to the public. The average receipts per passenger per mile increased from 2.003 cents in 1906 to 2.006 cents in 1916, while the average receipts per ton per mile declined from 7.48 mills to 7.16 mills. The facts, that the railroads during this period made advances in wages of $450,000,000 a year; that they made no advances in rates; and that nevertheless they earned about the same percentage of return in 1916 as in 1906, indicate that there must have been a substantial increase in efficiency of operation. The statistics of the Interstate Commerce Commission show how this increase of efficiency was obtained. The number of tons per loaded car increased from 18.9 to 22.4; the number of loaded cars per train from 18.2 to 23.4; and the average number of tons hauled per train from 344 to 535, or 55 per cent. In consequence, although there was an actual decline in average receipts *per ton-mile*, the freight revenue earned *per train-mile* increased from $2.61 to $3.83, or almost 50 per cent. In these figures is to be found the chief explanation of the fact that the railroads were able, in the absence of any advance in rates, to increase the average wage per employee from $577 in 1906 to $849 in 1916, or 47 per cent, and at the same time maintain their solvency.

While it is easy to demonstrate the incorrectness of Captain Beyer's contention that under private management our railroads have been inefficiently operated, I do agree with him that an increase of efficiency could be secured under some plan by which the employees would be stimulated to greater efforts. It is unfortunately true that a spirit of antagonism has grown up between the owners and managers on the one side and the employees on the other which is constantly rendering it more difficult to get efficiency. But I certainly do not believe that an increase in efficiency would be obtained by substituting government ownership for private ownership, and the so-called "tri-partite management" contemplated by the Plumb Plan for private management. The Plumb Plan and all other syndicalist plans really contemplate and would result in the domination of management by labor unions. Under the Plumb Plan specifically if any surplus earnings were made the employees would get half of them, while if any losses were incurred the public would have to pay all of them. Would the employees be deeply concerned about losses no part of which they would have to pay, especially if they were incurred in order to give them higher wages? Furthermore, the Plumb Plan would drive brains out of the railroad business. No man of real ability and initiative would stay in the railroad business under that plan if there was any other business left into which he could go and get freedom of action and rewards in proportion to his ability and initiative. Consequently, while it is conceivable, although not probable, that under the Plumb Plan the employees would do more and better work, it is certain that the total amount of brain power actually devoted to increasing railroad efficiency would be diminished; and no increase in the efficiency of those who work with their hands could long com-amount of brains devoted

see the ownership of the railroads
ld like to see it transferred, however,
t, but largely, or even wholly, to the rail-
s. In my opinion, the only way in which true
in industry can ever be brought about is, not by the
ment buying large industries and turning them over to
eir employees to run, but by the employees themselves buying these industries. It would be by no means so difficult to do as it may seem. A simple computation will show that the railway employees, by saving one-fifth of their present annual wages, investing these savings in railroad stocks and investing also in railroad stocks the normal dividends upon their stock, could in five years buy at par a majority of the stock of all the railroads of the United States. Ownership of a majority of the stock would give them complete control of the management. Everybody should be glad to see them in control of the management if they had bought control of the ownership of the properties with their own savings. The employees would then know that if the properties were efficiently managed they would gain by it, and also that if the properties were inefficiently managed they would lose by it; and it should not be overlooked that the fear of loss is just as necessary an incentive to efficiency in business
anagement as the hope of gain.

Knowing that if the railroads were efficiently managed they
ould gain and that if they were inefficiently managed they would
se, the employees would have incentive not only to do the best
d most work of which they were capable themselves, but also
e same incentive that the present owners have to employ the
st brains available to manage the properties and to give the
anagers the freedom of action and the authority necessary to
able them to develop and manage the properties efficiently.

When the railroads are returned to private management I per-
nally should like to see some plan worked out under which the
ployees would be given ample opportunity to acquire railroad
rities; under which they would be given some voice in the
agement even before they had acquired substantial amounts
ck; and also under which each individual employee would

be given opportunity, not o but, in addition, premiums or standard amount of work. But, a that our railroads have been operate past and I feel sure that the efficiency of the destroyed by the adoption of any plan which pla and management in the hands of the employees w ing upon them no financial responsibility for the results management.

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